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SURVEY OF RURAL UPLIFT



ural Uplift—why Rural Uplift and why not Rural Reconstruction ? The latter is a very pompous phrase, which misleads and deceives with false expectations—is a big theme, elusive yet overwhelming. The wood may not be seen for the trees. Lack of measure, lack of proportion, lack of insight will then all combine to warp the vision and distort the picture. It is therefore essential that a general survey in a bird's eye view should be made, and in course of that survey the broad lines of essential progress adequately indicated. It is not enough or even necessary to point out drawbacks, defects, deficiencies. There they are ; they lie to hand ; they spring to the eyes. To quote a title page of Tolstoy's—Rural Uplifter *more suo* ?—**what then must we do** ? The handicaps and deadweights have been accepted, how to reject them ? The blinkers have become second nature and part of nature ; how to shed them ? The clogs have grown in like in-growing toe nails ; how to excise them ? Poverty, Penury, Pestilence stalk the land, like spectres or worse than spectres, being grim realities. How shall we exorcise these spirits, which are patently envoys of the Very Devil ? These are not all. His Satanic Majesty has

many other envoys, accredited and discredited, at work. How to send them back where they belong ? Drink, Dice, Damnation: Damnation, Dice and Drink—what ever the sequence the circle completes itself and engulfs the savings of a life time and the sap of generations. The landscape is a nightscape.

| Patience, perseverance, persistence—these are counsels of perfection ! Education of the adult—*Quare* : Will the old dog learn new tricks ? And while learning the new, will he not forget the old and make a mess of both ?—That is a counsel of imperfection ! Culture for the unlettered or letters for the uncultured ? Culture or cultivation ? Which before which ? These are counsels of inconsequence ! And then it's money we want. No money, no uplift—counsel of procrastination ; and finally Birth Control—counsel of dark despair.

In sum : counsels of perfection, counsels of imperfection, counsels of inconsequence, counsels of procrastination, counsels of despair.

In this Babel of divided counsels—who can direct when all pretend to know ? there is one clarion call to all, which all counsellors mishear : the Call of the Conscience—the country is poor, in all conscience, so do not add to its poverty by mismating means and ends. So make the best use of poor means, instead of a poor use of the best. So first and foremost let the Uplifter himself first be uplifted; the trainer trained ; the physician healed. It is helpful to disburse money, it is wiser to dispense with it.

That such an Uplifter will ensure True Rural Uplift is a *sine qua non*. But where shall we seek him, and how find him ? He is not born like a poet, although he must have the poet's eye, in a finer frenzy rolling looking before and after and above—all upward, onward and away. He is not make like a Pandit, although he must command as much

respect in his orbit as does the Pandit, for then alone will he also command attention and exact labour, which is much harder but better than mere respect. He need not be—or better not be—ordained as divine, although he has to preach the greatest of faiths. Faith in One-Self. No he is none of them, rather, on the contrary, True Rural Uplifter has to be grown on the land, with the land, for the land.

This is no flight of fancy or figure of speech. It is neither rhetorical fireworks nor demo-statistical guess work. It is the need of the hour; the signal of the times; the call of the countryside for T R U E (True Rural Uplift Educator) has unobtrusively, furtively to watch and study the villager; to be born with him, to live with him; to die with him—and in a word to grow with him, right through all his environmental stages. To put himself in his place; to step into his shoes; to thrust himself into his skin. So alone, and in no other way, will he be able to improvise sure methods of Uplift with the meagre means at his disposal. So he will go along, where he touches, improving where he halts, uplifting all the way. For the process of Betterment must be assimilated with the very process of life and growth.

Taking primarily the villager, the following spheres in which he lives, moves and has his living stand out :—

- I. His Health and Home;
- II. His Field and Farm;
- III. His Purse and Surplus;
- IV. His Cult and Culture; and
- V. The Be-All and End-All of his existence.

Each sphere presents a series of vital points to the Uplifter or Educator, who may conveniently examine them so :

I. The Villager's Health and Home.

There is his simple dwelling—house, hovel, hut—Call

it what you will. But do not walk right up to it or right into it. For you can uplift as you approach.

1. *The approach.* There is no drive or alley but a little bit of open space, if at all. Perhaps a tree—*nim*, *pipal* or nothing growing at all, is growing. He does not live in, but lives out on this open space. The approach is *nil*. There is no reason why he should not plant a row of papaya or plantain to form a hedge. They take very little space; they keep out the dust; they minimise the mire. So he will escape dust-borne eye disease on the one hand and mud-borne body disease on the other. It needs no money; the effort is all. And he shall have a decent approach to his simple habitation. In England there is not a cottage, be it ever so humble but proudly possesses such a neat approach and even the tenement facade in Slumdom has its flower-boxes that enchant.

2. Next comes the open space or *yard* itself. It is kept scrupulously clean, swept and even partially dung-plastered every morning, but what is the lasting good if the sweepings are heaped in a corner or flung into the lane? In neither do they add to the amenities of the place. On the contrary they are likely to be blown back by the gusts of wind or taken back by the trudge of bare feet. They do not conduce to comfort, cleanliness or comeliness. So why not have a bin or a discarded tin to collect the sweepings from day to day?

3. Now comes the threshold: mud the step. At the very first step or threshold before coming over, stop a while and look up and around. The wooden frame is not quite simple but has rudimentary fretwork. That is village arts and crafts: recognise them, cultivate them. There are niches in rows and columns in the face—some black at the top with the smoke of oil lamp, others gay with multicoloured clay toys from the last festival. They lend a touch of colour and brighten the outlook. It is as if the Westerner's mantelpiece

were, by a freak of fortune or custom, suddenly put on the doorstep. Have no quarrel—other countries, other customs: but encourage this village decorative art in the village. And now take the step. It is high but not too high for frogs, snakes, scorpions and other undesirable aliens to creep in. So why not attach a snake guard made of gauze with metal band or frame to keep it in position? No snake or scorpion will slink into the dry house when it rains or into the cool house when it gets too hot without.

4. Now comes the *deorhi* dark, dubious, discouraging. It is really the threshold within threshold. It is the threshold within threshold, a crude *atrium* with a sort of ante-verandah annular space to right and left. Here the buffalo or cow and the calf may be tethered; or a few goats, or even pigs. It is decidedly smelly and evil looking. But what is to be done? The villager must tie up his livestock somewhere. Nights are dark and foul; beasts of prey are on the prowl—worst of all, the biped who beats all quadrupeds in converting *tuum* into *meum*. And then one has to be careful, for the otherwise harassed police cannot reasonably help taking up a roving enquiry in search of unbranded, unregistered, unidentifiable animals. What now can the villager do in the night to assure his livestock peace of body and himself peace of mind? Why lock them in, lock stock and barrel and live in with them. What can the TRUE do in such a predicament when he is at the end of his tether? Why, improve in detail what he can not change in totality; with a little liberal surgery and conservative commonsense, the most exacting dictates of Lady Hygeia can be satisfied. Thus, the floor is *kacha-pakka*. It can be made harder with crushed brick or *kankar* sand and clay with *gobar* binding. Then it should be given a flat V shaped depression and the whole depression inclined towards the house drain. Here it should be given a new *matka* to catch the wash-water after daily washing. The dung is gathered,

the urine falls into the receptacle and is taken out; the wash water flows down the drain and goes to manure the new cultivation.

5. This new cultivation is a prime attraction, novel and useful. The house yard or *dalan* is an enclosed open space (if that contradiction in terms may pass) which is mainly kacha with a stone platform at one end a glaucous green drain transecting. Here the women have some privacy, the children security. The kitchen with eating floor is at one end and facing it the Kothri at the other. Near the kitchen is a stone or brick slab for washing utensils and brassware and eatables. Nearer still, but higher the water-stand where the day's supply of water brought in on their heads by the hardy women with their straight graceful balanced gait, perfected by practice, is stored. Now all this valuable wash-water sullage water, sink-water, spill-water, and bath water runs to waste. It is a nuisance and a danger as the imperfect drain which carries it cakes with moss at the margin and beyond, breeds mosquitos in the middle and sprains the foot as one steps on it in the dark. Here TRUE can play the magician by planting a few flower and fruit plants so eliminating all the nuisance and adding to the amenities of the place. Tulsi and genda (*Ocimum Sanctum* and Marigold) are plants and can be sown along the side of the drain, along its length. Such useful inexpensive fruit plants called *turshawa*—plantain, payaya, guava, citrus can be planted. This little plantation, which will be practically self-grown, self-reared, self-manured self-raised will come to flower and fruit, please the jaded eye, calm the harassed mind and what is more apparent put vitamins into the villager's person and pice into his purse. Some people object to the Tulsi irreligiously that it attracts snakes but the snake-guard at the threshold and a wire-gauze at the opening of the drain will keep those unwelcome visitants out. Such a self-made home-garden will bring God's blessing.

6. The Kothri has already been mentioned. It is farthest away from the deorhi and is in more senses than one its antithesis. The Kothri is the sanctum, the store-room the strong-room and at times the bed-room and lying-in room. Health demands that such an important room should be sunny, airy, big and broad. Wealth or whatever modest trinkets and silver passes for wealth demands that it should be small, dark, inaccessible. Here, then is another dilemma facing the TRUE. To set up ventilators is to add to insecurity. To let in windows at the back is to invite the burglar and the dacoit. To let in windows at the side is to capture all the dust and the loo. To let in windows and ventilation at the front is to wallow in one's own smoke, dust, dirt, housesweepings and foul air. How should TRUE proceed? A little reflection will show the way and a little system will clear the path.

Safety first, certainly before health and wealth: Burglars and dacoits, born of the hard times or a harder profession or a relative insecurity when political exigencies supervene to preoccupy the police will work havoc with the villager's simple dwelling if they gain ingress through the window or ventilator, whatever the type, Punjab or other. And a Kaṭha house, no matter how thick and wide the mud is laid layer on layer on the wall, is a standing call to depredation. The jemmy and pick will force a way through bricks and it will be child's play to drive them through earth and mud. Now without aspiring to be a practical or professional burglar one may ask what can defy and defeat the burglar? Time. How to take time as ally? By delaying the burglar in his operations and so allowing time to the harassed police patrol or the village watchman or the temple priest or the victim of insomnia or of glycosuria or the new-born baby or the wary village dog or the farmyard rooster to come to the rescue and give them alarm. But how to delay the burglar? Simply by building up the mud wall round a stiffening of iron

wire-netting the cost will be a few rupees, the gain enormous for the invisible stiffening wire-net wall have mud walling to either side and delay the jemmy in its otherwise smooth passage across. We shall encounter this wire-netting again.

This also facilitates ventilation, which excludes draughts, chimneys flues everything. All that is needed is to leave the inner part of the wall unfinished up to the top. The outer half or partition of the wall will still provide adequate security with the wire stiffening. The opening at the top will ensure draught and aeration. As to lighting this can be easily arranged from within by making the door frame $1/4$ bigger than the door leaves and so leaving the opening at the top for light and air.

With greater light and air the interior of the Kothri can be furnished according to simple but effective village taste. Indian house decoration like Japanese is mural but stands out being 3 dimensional while the Japanese is 2. Then in the Indian village-house the wall face of the Kothri has a regular chequer pattern or chess board of niches and salients and the 2 dimensional wall becomes a 3 dimensional geometrical solid figure. To heighten the effect the niches and salients are painted appropriately in different shades usually reds and oranges blending into blues and greens, while the rest of the wall face is whitewashed. This whitewashing may be done in lines or strips or zones on a plain mudwashed background. The floor has no flooring or carpeting or matteressing but is plain mudwash but for that it has afforded some scope for the village artists or the women in the household to display their talent. This is seen in the variegated pattern circular rectangular and section of conics which the deft hand with sure touch has made out of the sanctity of the spot and invokes the blessing of the gods.

TRUE is however interested in the floor and its sacred

signs in more mundane ways. There are two (1) the floor hides the villager's wealth somewhere. It comes to light when wanted; but alas! also when unwanted, especially when robbers who have no regard for age or sex or the sanctity of signs, tortures the inmates into disclosing the tie of their secret treasure. How very much better and safer would it be, if all this hoarded wealth, howsoever modest, now frozen, were kept fluid in another way denoted in the third Section Purse and Surplus.

The second is still more important, and obvious; the dung-layer is apt to be infested with white ants. What to do? And how to meet this insect menace, which, otherwise, is liable to draw other, bigger and more poisonous insects and entail another menace? The usual preventive for wood-work and flooring is a coat of coal-tar. This may be laid in lumber-rooms but does not appeal very powerfully, in fact, quite distastefully, when presented in a living room. Fortunately a very simple, effective and cheap device has been employed by the Electroculturist in the field and farm. That may be utilised as an anti-insect measure in the house. It consists in laying a carpet of wire-netting on the places invaded or if need be, on the whole floor and then covering it up with mud and dung as usual. Experience has shown that the white-ant detests this screen for the mild electric potential it sets up even where it is used as the Radiomagnetic bed for flower, vegetable and other cultivation and gives it a wide berth. So all the more will it avoid a floor where there is nothing to feed on.

8. The *kitchen* offers a stark contrast; for here there is a lot to feed on and good warm fire to laze by. So the kitchen obviously becomes an Entomological Museum. Flies, beetles, wasps, an occasional grasshopper, thrips, ants of all kinds, bugs galose, wasps on the war-path, mynas poking their saucy beaks, crows cawing with rapture, rooks

in an improvised rookery, kites on the swoop—all, all find ever-ready welcome. Look around and you see the reason why. No greater waste in penury than in the poor villager's kitchen, which includes the dining floor, was ever seen. More unconsciously than consciously, in fact, habitually, there is not an eatable, in every or some stage of its preparation, which is not exposed to all comers for the whole or part of the time where greens are concerned and they are largely concerned as the villager is vegetarian. The villager's procedure and the mentality governing it are still more farcical. Thus potato was long taboo because it grows underground. Tomato is taboo because it is said to resemble human flesh—anathema to the vegetarian's stomach and dietary. Carrots are doubly taboo because they have a double dose of sin—growing underground and resembling human flesh. Beetroot is also unpresentable in the bill of fare, and the extremely useful onion also repels by its smell. And where certain greens are used there is much which is discarded but which would be used in the West for soups, a course unknown to the purely Indian dietary. Then a considerable volume of grain—considerable in the eyes of the little marauders—goes to join the great discard. Not a meal is partaken, not a cover laid, but a certain part, in fact the very first mouthful, is laid aside, as a practical form of saying grace by deed and not word; for the villager has a gesture and does not make a song of it. All that is normal. Abnormal is another form of discard: Whatever comes in contact with unwashed man or unwashed ground becomes polluted, untouchable, uneatable. In sum and substance, the kitchen is an open-air sink, scullery and refuse-bin and unclean forms of life from the germ-laden ant to mangy piedog in the horizontal plain and from the disease-bearing housefly to the kites and crows, sharp of beak and claw, in the vertical plane, keep revels there.

How shall T R U E get to work ? There is an excellent kitchen utensil called the *Chalni* or sieve consisting of a light wooden roll with a gauze at one end, and open at the end. It is very cheap and can serve a double purpose as strainer and as gauze-cover for eatables. All that the cook has to do—and it must be remembered that in the rural area every man is his own cook and the Do's and Don'ts and vetos are so rigidly severe that there is a saying that 12 Kanaujia Brahmans require 13 separate kitchens—is to see that the eatables are properly covered. Whatever is discarded is properly thrown into a refuse tin and the sweepings, peelings, leavings etc properly shot into a dust bin. These can thereafter be cleaned out periodically and kept elsewhere in a pit for use with farmyard manure. The wash-water and scullery water will all drain out and flowers and fruits planted along its length benefit enormously.

9. The *floor* is most important and the most unkempt. That part of it enclosing and adjoining the kitchen is used as eating-ground : It is certainly washed with dung after every meal, but dung does not invariably clean and where it cannot dry, especially where it cannot catch the sun, it may add to insanitation. It would be far better to have stone slabs or brick-faced platform which wash and dry up with ease. Elsewhere the floor can and is kept clean but care has to be taken that the sweepings are properly collected and disposed of. Sweeping should not be taken to mean a mere transfer of dust from one corner to another. The floor of the yard needs special attention in this respect. It is soft ground, which has to be swept with extra care. Weeds and rank vegetation have a habit of growing up on this soft fertile ground and special care is needed to keep the bare area free, while intensive cultivation is done in and along the drain or in the special plots in which fruit

flowers or vegetables may be grown. It may be asked : where is the water to come from ? Below is the answer :

10. Every household has its *reserve of water* stored in earthen pitchers on a bench or platform. This may even be a pile of bricks, but it invariably is raised ground. This is also holy ground, clean ground and can only be fingered and touched with clean hands, otherwise it is defiled and after service hands and vessels have to be washed. The result is that the water-bench or water-table are invariably islands set in a pool of water. All that carefully gathered water which the matron or the maiden has brought may—be from a distant well, on her ample waist and hip or head, is to all intents and purposes lost. Now, how about enclosing the water fountain formed by water bench or water table with a bed of flowers, also some useful vegetables and a little tulsi ? In this way every drop spilt goes to serve the trim little garden. Want not, waste not.

11. The *latrine* is *prima facie* a fiction. For the villager has no latrine inside his house. At the utmost two bricks serve as khuddi in a corner, which is partially enclosed, for children. But that is not to say that the villager omits that essential process or discipline imposed by nature on man for his welfare known as defecation. The villager does defecate and that purpose is served in the early hours of the morning in the green fields. So the villager "*babbles of green fields*" like Falstaff but means something totally different. So the village man ; so the village wife has an *al fresco* latrine. The expanse of countryside, scrub, tall growths, brush, bracken and dhak etc. afford ample cover. The men disperse, the women collect and drift about in odd groups. They hang together for safety and then spread out in the dusk and roam—roaming in the gloaming. Thus is romance blended with a most prosaic performance ; and there is more to it. In the evenings after

dusk, motoring along the highway, especially where it skirts the tank, one may see in eerie figure or ghost white with a flashing brass lota. They are village women going to or retiring from the green fields or jungle. Jungle in the vernacular means water-closet and rightly. Everybody goes his own or her own way. Communal *aisances* like communal kitchens are out of favour.

That indeed is the tragedy of sanitary reconstruction. Even in Town Areas, which have set up corrugated iron latrines at great expense, only to find that they are standing unused and will not sell even as scrap iron, being defiled. And curiously enough such latrines are not available where they are most wanted, that is to say in congested areas, for land there is much too valuable to be put to such base use. A city body which were to do so would be showing civic sense and sanitary instance of a rare order. But that is not the case. To revert to the rural area : The question is how to popularise these new-fangled inventions as the villager sees them. Even during big rural fairs for which adequate sanitary arrangements have to be made a good time ahead, the Kumbh for instance, the experience is that the villager cannot be weaned from his old ways. And at home he may be told that he is only adding to filth and insanitation near his door-step and the nearby field and he will retort : Very well. I will go further afield. Better and cheaper models, are designed, but the latrine problem persists. What is gain and loss ?

The gain is a lesson learnt. The money spent on latrines were better spent on improving old wells and providing new ones ; on improving paths and providing new ones ; on looking after tanks, on many other more feasible form of village improvement. The loss is that of a valuable source of manure and compost. But as it is, this would be

surplus to requirement and the loss is not felt. What is the solution ?

Some might say: the central flushing system. This, after all, is a counsel of perfection. Apart from the expense which is prohibitive for the Indian rural area, it is not fool-proof smell-proof, dirt-proof, as idealogues would persuade themselves and others to believe. Experience shows that even a first rate hostelry man on Western lines in India has got closets which fail to work despite repeated flushing or send back filth by drawback and no amount of tugging at the chain and flushing will send the fugitives back where they belong. To avert such a minor sanitary disaster the best of closets in some Western lands are provided with a bucket of water and a brush and canister so that everybody becomes his own scavenger. This system of flushing-cum-scavanging may however not appeal to all as the brush becomes heavily infected and the method is inelegant and unæsthetic. And with the least of approach to perfection the flushing system takes its silent but sure toll of human life when the cleaners who go down the manholes to clean up are overcome with the poisonous gases pent up and volunteer after volunteer loses the gamble with existence—for a casual's wage.

The latrine problem, in sum, defies solution East or West.

13. The *roof* needs no introduction. It stands out—often too prominently, obtrusively, awkwardly. The thatch is too low, unstraight, unkempt. It strikes the eye painfully. It is shedding its straw. It is stiff with white ant. It is infested with insects. It harbours snakes, scorpion, centipedes. It is rotting from place to place, if not all over the place. And it fails in its first function—to provide shelter, for it leaks badly, thanks to the unsettling efforts of monkeys on the bounce, driving winds and pelting rain.

If a decent, safe, sanitary shelter over the head is the prime requisite of Rural Uplift this venerable fossil has to go. How to replace it ?

Straw is used for thatching. It is available on the threshing floor. Sarpat and other scrub is procurable in the jungle. Reeds and osiers are attainable in jhils. Scarcity of thatching material is therefore no excuse. What is less accessible is bamboo. But there is no reason why every villager should not grow his own bamboo grove. Nothing very ambitious, barely a clump or two on his wasteland, boundaries, ditches. In fact it would be a good plan to plant bamboos which grow fast along the boundary of valuable cultivation to shield it from cold winds and frost. Certainly the vegetable garden—potato patch, tomato spread, chillies bringals, cauliflowers, salads would be very grateful for such protection. With the straw and the bamboo so grown on the spot and the building material in the shape of broom corn fibre likewise raised on the spot, the roof can be renewed within a day or two. If, now, such a day were set apart as for spring cleaning, periodically, the more serious business of roof renewing would be done without an effort, without notice.

Most difficult is the problem of renewing the flat mud-room resting on beams and boards. Some such roof is used to cover the sanctum of the villager's house, if it is not grotesque to use that word for a hovel into which every nuisance under the sun finds undisputed entry. Look up if you can and see : The beams are unstraight, zigzags of babul on a bend of which the down-and-out villager may hang himself and in the Hereafter ruefully say : *Of my house-beams I made my gallows' tree !* The beams are all apologies, eaten to the core. The mud from the roof shows through but does not fall high for the simple reason that it is hardened to a cake, or Railway bun.

To replace such a roof is no child's play. But what cannot be ended must be mended and mended in a very simple way to make the roof stronger and the room cooler. Precisely such a device was shown in the Exhibition. It consists in providing a double roof, one above the other having an annular space in which the air will form a cool chamber and keep out the heat of the sun playing on the top. This will also provide the villager's wife and children shelter from the sun-baked plain and loo without, and make for better health all round. At night the burglar, too, will have his labour doubled if he seeks to break through the double roof. During the day the roof with a flat level surface will serve the whole household in a still more effective fashion. In the early morning hours when the sun is young and its rays rich in ultra-violet light, the whole family can sit up and bask itself and benefit by the ultra-violet radiation which in the West is only available for the very few at a prohibitive price. For a pound per exposure of some minutes is not a popular price by any means. Finally the same flat roof can be used for similarly radiating the morning food for the family, the feed for the animals and the ailing parts of those who have pain in nerve, muscle, gout, tendon or the like.

But it may be asked: How to keep out pests? This too can be effected in a very simple way, as demonstrated in the Exhibition. Take the pests, one by one.

1. The *snake*: Without being a connoisseur of reptilians, it is easily seen that the snake crawls into homes in the wet weather in search of dry ground. He will climb up the posts or pillars which bear the roof and so slide into the thatch in search not only of dryness but also of security. All that is now needed to keep off the death bringer is to provide the pillar with a simple snakeguard made of tin. Let a star be cut or stencelled, broken in two

hollowed out to let each half fit into the pillar at right angles and then the two halves should be nailed together and into the pillar. No creeping crawling creature can get over the sharp points and angles of the star.

2. The *mouse* and the *rat* are kept off in the same way. To make it more effective an inverted cup such as used for the posts of rat-proof granaries may also be attached in two halves as explained.

3. The cup and star will keep out *frogs*, *scorpions*, *centipedes* and with the snakeguard at the threshold the whole house can be made pest-proof at very little cost.

It can therefore be said without exaggeration that the greatest measure of uplift in the Rural Area shall have been attained when the roof itself has been uplifted as explained.

14. The *Rearyard*: More important than the foreyard and the houseyard and the house itself is the Rearyard. Here the ground is kept scrupulously clean for here a large majority of the chores are done: Here under a shady tree or a thatch the cattle are tethered. Here the dung is pitted. Here the *uplas* are made and stacked. Here the cows are milked. Here the buffaloes are fed. Here the geese cackle. Here the dogs bark. For the geese have their coop and the dogs their manger in the rearyard. Nothing is amiss or out of place, even if not up to Rural Uplift ideals.

Begin with the cackle before we come to the 'osses. What are the geese doing in this babel? They add to it and so do the dogs add to the pendemonium. That is their business. Both are kept for watch and ward. They give the alarm in the dark hours of the night when dacoits, and burglars and thieves—especially cattle thieves—are on the warpath. It may be asked: what have the villagers got of value in the rear yard? To put that question is to proclaim oneself unversed in rural economy. The villager's wealth, all his goods and chattles, is chiefly cattle and cattle-theft is very

difficult to trace and so attracts the cattle-thief. The burglar also comes by stealth but not to encumber himself with a bullock or a buffalo. His business in the rear yard is with the rear wall of the house. The dog or goose will give the alarm. As to the dacoit he will certainly find the menagerie in the rearyard a complete nuisance, but as his methods are very violent and he carries firearms, the rearyard will not hold him up very long. And usually when the startled villagers offer fight he and his gang will escape across the rearyard into the fields and over the bounds and far away.

Normally the rearyard is a busy hive. Here the women of the house fore-gather, the old ones to bask in the sun the younger ones to prepare dungcakes. Here the youngsters play and the spinning, weaving, rope-making, or whatever the cottage industry in favour and vogue, is carried on. For the villagers, by choice and necessity combined, leads an open-air life and it is the rearyard which provides the fullest scope for his activities. And the lay-out of the houses is such that they look like a bunch of grapes on a narrow stem, the stems being the central lane and the grapes being the houses, each house hanging on the stem and having plenty of space to the rear.

And yet the rearyard is not the Abode of Peace one might like to believe. It is a beauty spot in its own way and like its counterpart in Western lands apt to disappear under the pressure of builders from all sides. The neighbouring houses try to encroach upon it and a slow process of nibbling is going on all along. Then, with increasing family, the villager himself builds upon it. The result is that the rearyard is a scene of unmitigated congestion in the large majority of cases.

What shall the Rural Uplifter do? Bring order into confusion and alleviate the congestion. The yards of two neighbours will grow in size, salubrity and decency, if

their animals are tethered in a joint byre or a double byre 'back to back' provided with a pucca floor and detach-able cistern for catching excreta. Thereby the space for the use of villagers themselves will be doubled. And in course of time with the removal of the manure to pits in the fields, the rearyard should after all the amenities of a common or an area.

8. And then the rearyard will assume new importance in other ways. Village education is not expanding due to lack of funds. But far be it from the Rural Uplifter to dwell dolefully on that handicap. If one must wait for a model school for the unlettered boys or girls then the spread of education may as well wait for Greek Kalends. But there is nothing to prevent the common rear-yard doing yeomen's service in this respect. Some enlightened Pandit or Panditani can take the youngsters, boys and girls, seat them in a row in the rearyard and teach them the elements of language and scriptures. Something will have been attempted and a lot will be achieved.

When the village cannot afford a village hall and its *chaupal* is a thing of shreds and patches, its Rearyard may yet become a vehicle of culture.

Health and Hygiene.

Health in the Rural Area may be defined, with many excuses for using the term at all, merely negatively as the absence of disease and Hygiene, with severe strain on language and stretch of imagination, as the compensating effect of nature on the human system to restore the balance in favour of health as described above through the blind force of immutable habits and customs governing the mode of living and dying.

This is undoubtedly but unerringly a dark picture without light or relief and it shall be the primary concern

of T R U E to change it out of recognition with, the minimum of toil and with the maximum of merit.

1. *Low vitality* : This is axiomatic and covers poor vitality in every direction, physical, mental, spiritual, moral and general. For *mens sana in corpore sano*, a healthy mind in a healthy body, and low vitality in the body means poor functioning of the mind and spirits.

The following simple *psychological test* will plumb the depths of this low vitality.

Stand out in an open space, spread out a rubber mat before you and ask one hundred villagers one by one to come up, stand erect in the middle of the mattress and look you in the eyes. How should they react to the test ? The test is extremely simple and the reaction should be 100 % successful without exception or comment.

Actually the following statistics speak to the facts as they are:—

0 % will comply completely with all the instruction given.

50 % will not stand on the mat, but go round and round it.

80 % will not stand erect.

90 % will not look you fair and square in the eyes.

The comment and conclusion are obvious. Sharp eyes, keen intelligence, straight carriage, a dignified bearing are all lacking in a greater or less degree. Vitality is poor all round and its after-effects are seen in the above poor performance. If, now, T R U E could somehow at the touch of a wand vitalise the spine and galvanise the thyroid and other glands. he should ensure a large measure of Rural Uplift immediately. The record of such an attempt through Electroculture comes at the proper place.

2. The villager is actually living on the brink. and

the pity is that he does not know it. Along comes a girl-wife of 18, with eyes that have no light left or only the faint glimmer of light, with the pathetic request: Doplease give me something for my eyes, if I could only go back to the kitchen and do the cooking! The poor dear thing does not and cannot realise that it is just the kitchen range with its blinding glare below and mantling choking smoke above which have done havoc to her vision, Unless, of course, it is the aftermath of sin running down the ringing grooves of generations and exacting its dire toll in the coin of eye-balls with atrophy of the optic nerve. Such cases are legion but what can T R U E do? Some counsel injections of Neo-Salversan, but it is at once a counsel of perfection followed by discipline, for the essential clinics are not exactly available round the street corner and facilities are lamentably lacking. But to return to the dear little lady: She is like the whole sisterhood living on the brink. She retires from the kitchen and her eyes improve; but long such rest cannot be; she returns to the kitchen under the heel of necessity and her eyes go bad again. Eyes may or may not be windows of the soul, as the poet sees them; but they surely are the door-ways of disease through which more infection and affections march in than medical science is aware of or medical art can counter or medical service control. Aching eyes, pain in the head, nervous breakdown, vitality low and below the danger point and one more prominent figure on the sicklist. But, who minds, who cares—so long as the kitchen fires are kept burning! Blame not the bread-winner or the householder. His master-care is how to make the two ends meet. The invalids, in the absence of centres of relief, he leaves with supreme fatalism to the loving care of Mother Nature:

Would that he did! But their actual lot is to be left to the tender mercies of seen and unseen enemies of man:

moths, bugs, insects, vermin on the one hand and all the unseen carriers of disease, the microbic fauna and flora which only flash up under the microscope, on the other. The victim lingers a good long while on the brink, strong in life, stronger in death, but at sure, long long last succumbs to the unequal struggle, unaided at any, and handiapped at every step.

3. It is perilous to pontificate. Some say : increase the villager's resistivity, his staying power, his disease-resisting power. But that is also a striving of nature, unhampered by man. The host develops anti-bodies to checkmate the unwelcome intruder and the whole theory and practice of immunology and vaccine therapy is based on that governing principle. The paradox asserts itself clearly : the villager gets infected because his resistance to infection is abnormally low, his stamina hardly counts in the balance, he has no appreciable staying power. On the other hand, because he is a walking hospital ward, insectarium, bacillae-carrier, his system has developed, in course of time, its own appropriate means of defence and thereby an abnormal staying power, which prolongs the struggle. Were this generally not the rule, the villager's infants which survives the most appalling insanitation before, during, and after childbirth would die off *en masse* and 100 % and that would be one solution of the Problem of Rural Uplift. *Et le combat cessa faute de combattants !* One end of the fight for Rural betterment. The fight ceased for lack of fighters. Such an infant must have prodigious reserve strength and staying power.

In the tangle of paradoxes the Rural Uplifter's course is clear. If the villager's resistivity can be increased *ab initio*, not only he but his whole family will benefit. Thereby infantile mortality will be reduced and the struggle for survival alleviated. The objective is there. How to attain it with the simple means at one's disposal ?

The first need is to vitaminise the diet. A personal enquiry from thousand of villagers who are definitely and distinctly not doing well, but indeed doing very poorly, shows that their diet is to blame, whatever else may *also* be held responsible. What is their dietary ? Jowar and Bajra and Bajra and Jowar. Compare them with the English diet as given in a popular doggerel:

On Monday we had bread and dripping,
On Tuesday we had dripping and bread,
On Thursday we had dripping and toast.
Which is the same as dripping and bread !

But the Red Letter day in the English farmer's culinary scheme is Sunday with its Sunday dinner of chicken raised at home. Clearly, dripping is an excellent sauce or opsonium to bread and provides all the fats and proteins one could in reason wait for. In contrast therewith, the Indian villager's diet of Jowar with salt or spice or a little *dal*, as butter, is poor in taste and poor in quality. Taste after all does not matter. It may look after itself. Beggars cannot be choosers and hunger is the best *chef* or sauce. But how to vitaminise the poor diet ? How to introduce the essential elements which while costing very little shall yet enrich it to the food engineer's satisfaction.

There are three large-scale wholesale examples of such a poor diet properly vitaminised. The first is set in jail and the second in the army and the third in certain factories. The jail-bird is a very healthy animal, and ideal beast of burden, for he carries on his ample shoulders the burden of hard labour. His health ticket shows a steady gain of weight which is the best index that can be in regard of the fact, "pathologues" apart, that the Indian is undersize and underweight *alike* for age and time and clime. In the jail every attention is paid to health and hygiene as a matter of course and routine and discipline and infractions are

visited with severe pains and penalties. But the diet is thoughtfully and economically combined in the kitchen and vitaminised in the result. In the army, the results of vitaminisation are still more striking. A sturdy physique is a *sine qua non* for the profession of arms and C. 3 'S. are converted into A.1'S. The young recruit is not fed on special meats but his diet is duly vitaminised. As to the third example, factory labour has to be very efficient in the interest of the factory no less than of the labourer himself. For a big sick-list and a good balance-sheet cannot co-exist. Here a rich variety of eatables at wholesale cost price is provided and regular accounts for each labourer's family kept so that there shall be no excuse for not vitaminising the menu.

It may now and at once be interjected ? The jail bird has the resources of the Civil Department at his back: the recruit, those of the Army Department, the factory hand those of the Factory Organisation. What has the poor villager to fall back upon? The answer is: The resources of Nature. Provided he is resourceful enough—and it is the business of T R U E to open up avenues and to lead him along—he can grow on his own home-farm all the fruit and corn and vegetable, spices and fats which he needs for vitaminising his menu and vitalising himself. How, will be shown under meals and menu.

Personal Cleanliness.

Who has not seen the villager on the Trek ? Like Dick Whittington, (the villager who became London's Lord Mayor) with his stick bearing his bundle on a shoulder he goes along, but unlike D. W. he carries his shoes slung from the same stick as part of his gear. Will no one tell him that his footwear is meant for use on his feet and not display at the end of a pole ? He will probably reply: I prolong its life by restricting its use. This

provokes the retort : why not prolong the life of your clothing also by suspending it from the same staff and walk in the nude ! And he will certainly exclaim with a blush : I am not so mad as all that !

But mad he is in all conscience and it is up to TRUE to put him wise. It is sad to have no shoes to one's feet. It is bad to have them and not put them on. It is mad to wear them on the shoulders like epantettes and not on the feet where they rightly belong. And as to prolonging life—whose is more important and fit for prolonging? One's own life or one's leather's? For assuredly the villager is not prolonging but actually shortening it through going barefoot and picking up germs wherever his dust-bitten, torn and bleeding feet do take him and as to leather if he can afford one pair of shoes he can afford two and twenty. This is no exaggeration. Let the following statistics show: Out of 3400—in round numbers—conscious sufferers in the Rural Area, conscious enough of their suffering and solicitous of relief, fully 1100 complained of pains and aches and swellings in the foot. All had bad feet, about 33% or every fourth fellow had feet distinctly calling for rest and attention. Numbness, heaviness, tumour, tingling, swellings in fact the whole gamut of ills which bare feet and legs pick up.

Ills seen are bad, but those unseen are worse. This refers to germs and spores and mycelia and all the fauna and flora which pullulate under the lens. The villager has rude remedies when thanks to his low vitality he falls a prey to disease and epidemics if he will only pay heed. But he won't. He is very careful to protect his cultivation of *pan* against the tread of any but himself as outsiders bring the evil eye and evil foot ; the fact of the matter is that the intruder's feet carry dust rich in spores of a disease fatal to *pan*. He has learnt by experience that the safest way to

safeguard his precious leaf and vine is to keep outsiders off! Would that he could be as considerate about himself as he is about his *pan*! T R U E will explain the full force of the analogy and the appeal for personal cleanliness will go home.

That is a paradox which is cured by practical counsel. The peasant is a bundle of paradoxes some good, some bad, all of which T R U E can turn to his better and greater advantage.

His toiletry is of the simplest and could be very effective, were its effect not nullified by bad habits. Thus he uses no tooth-powder or tooth-brush—only a twig of *nim*, acrid, bitter, fibrous, hard. It is a job to chew it into shape, which he does with his molars, which does them good. The antiseptic juice serves as dentifrice. He then polishes his teeth with the twig, whose roundness he has chewed and flattened and corduroyed. This ribbed surface grips and fits well into the hollows between the teeth and gives them very effective polish. Salivation is accentuated by the bitter juice and cleaning and polish of the teeth are as perfect as can be. Now comes the dark side of the picture. Throw a spotlight on his bad habits. He munches *pan*-leaf, spice, lime, betel, set and rolled into an attractive green lozenge—every odd time of the day and looks pleased as Punch if he can have his cheeks bulging with carmine mass like a monkey's with nuts. But this bad habit only tears up the gums, eats into the teeth, wears out the tartar and saps Nature's dental defences against decay. The habit spreads: when the *pan* is not available, he will chew any odd spice, nutmeg, clove, aniseed, cardamum. The habit spreads further afield—he will be chewing strong uncured or cured tobacco at first by the grain and then by the handful. The habit spreads on: he takes to chewing narcotics, intoxicants, inebriants—slow,

steady, sure, posions. His health breaks down, his purse is emptied, and his white teeth are nothing but a mass of "Black Holes".

What the man does out of perversity—which is a bad habit madly followed—his wifely mate does out of coquetry which is a mad habit badly followed. For if perversity is pleasing oneself to fool others, coquetry is fooling oneself to please others. In any case the woman will ruin the white radiance of her dentality by applying black *missi* to distraction. This will corrode the enamel, desiccate the gum under the breach till the teeth become filed to a point and the point drops off less with the ravages of time and more of *missi*. The tooth goes; the *missi* stays. And woman keeps faithful to a bad habit. Buccal hygiene suffers in other ways as well, which are an exaggeration of man's wicked ways. She takes *pan* lozenges more freely and longer than he does. The ephemeral carmine of the *pan* juice gives a special tincture and blush to her rounded lips—full and rounded less through the opulence of Mother Nature and more through the over-exercise of the facial musculature; and that tincture may dye deeper than the best lipstick affected by her sisters in the West. Both sin against the laws of hygiene and the dictates of the conscience in hankering after a transient triumph in search of a so-called æsthetic effect. Both have similar excuse. To splash a big strong staggering dash of colour against a pale or dark background. In the one case the background is pale through anaemia, sunlessness, haze. In the other, the dark hue of the complexion. But Nature's red was never so set, and yet is easier set than with lipstick or *pan*—by simply following the law of health.

The hygiene of the eyes is still more pressing. How pressing the need may be gauged from the fact that eye

trouble in the Rural Area shows 100 % more incidence than skin disease, venereal and non-venereal. This is the actual statistics based on 10,000 genuine cases in which relief was definitely desired. Why are eyes so bad ? Why so much glaucoma, conjunctivitis, cataract and a host of other affections ? The whole truth of the case is that from earliest infancy up and indeed in ante-natality the villager,—man, woman and child—or child, man or woman—is a willing slave of circumstances, which play havoc with his eyes. Down in his cradle “he is done in the eye” in a double sense. The eyes are thickly coated with more than one layer of soot caught on dubious earthen-ware from smoky wicks and applied with unclean fingers. The ideology behind this eye-dosage is twofold (1) To keep off the evil eye, and preserve the beauty of the wonder-child by actually giving him a black eye, which is superstitious idolatry ; and (2) to enhance the beauty of the eyes by matching or mating the white of the balls with the black of the lids or lashes. That is the tragedy enacted in the cradle and is seen ; that unseen in the womb is still more fateful and pathetic, for it is in the womb that vision is ruined by hereditary disease although the dire results may appear late in life—In one case, daughter of 15, mother of 30 and grandmother of 50 were all struck by blindness,—atrophy of optic nerve with a very positive reaction to Wasserman’s tests and then comes the greatest tragedy of all. Neo-Salvarsan injections are not available round the street corner and so far as the Rural Area goes *non est*. As times roll on the first shibboleth dies out but the second takes root and comes to plant and fruit. In the fine flower of womanhood the village girl has made a fine art of the cult of lids and lashes. Soot is laid on because it is devotedly believed to embellish the eyes. It may be a mania which the superior soul may view with amaze, but East or West the sisterhood is

equally oppress. The cult of the lids and lashes is the dope in dots and dashes which the Western sister artfully administers to her chief charms after plucking the undergrowth of hair often at risk of life, for streptococcal infection is no respecter of persons or geography.

More practical is the question : How best to serve the hygiene of the eyes, and the answer is : By giving up the bad habits described above. Alongside, care will have to be taken to use the best water for washing the eyes ! In this respect the Easterner has one good point and one bad one as compared with the Westerner. The result after such a step backwards and another forwards is, *As you were !* The Easterner uses running, flowing water for his ablutions, but the water is not always clean ; the Westerner uses comparatively cleaner water, thanks to more efficient sanitary services, but he uses his own washwater which is standing water in a basin. The result is that the former captures the infection of others ; the latter wallows in his own. Here both need hygiene of the eyes in other than natural sense.

There are other circumstances without a redeeming feature which will ruin the eyes and warp the vision and work havoc with the poetically styled "*windows of the soul*" : Such enemies are, *smoke, dust, wind*. The first inflames ; the rest irritate and infect : The risk and nuisance is so great that it may be noted under the major miseries of a villager's existence. As to smoke, there is and can be no smoke abatement society in the Rural Area, so long as the essential living hours and activities of a villager and his family are wrapped up in smoke. At the peep or squeak of dawn, they gather round the *upla* fire which is diffused warmth but concentrated smoke. If there is the least kick and nip and strength in the wind, which might blow away the smoke and leaves the warmth, they sit in an

enclosed yard or veranda and so accumulate the smoke as well as the warmth. When the warming up is ended and the young morning sun breaks up the family circle and each goes about his chores, begins smoke of a more persistent type from another quarter: the family kitchen. Here all the food and meals are cooked under a verandah in an open grate which has to be jealously shielded to keep the flames of the woodfire from flickering and dissipating the heat. So smoke is collected from grate to rafter and the greener the wood the denser the smoke and as cold meats do not enter into the villager's menu and each wafer of bread has to be freshly cooked over the grate and partakes as it comes up puffed and piping hot from the oven, the kitchen fires are kept burning very long hours. In fact the embers are kept at glow-heat the whole day for a reason which will presently appear. Evenings like mornings, the same cloud or column or pyramid rises up when family and friends foregather round the blaze, which is more smoke than fire, to warm themselves and while away the idle time and then in the haze there circulates the *chilum* or *hookah*, which is tobacco inhaled dry or drawn through the water. The *chilum* is more than utensil, it is a sign, a symbol, a blason, an amulet, an honour and a ceremony. What the tea cup is for Japan as matrix and leaven of society, so the *chilum* bowl is for India. Poet Yone Noguchi coined the term "*Teaism*" to embrace the wider, deeper significance of the performance; the orbit of the *chilum* embraced fields and horizons that escape scrutiny. It is more than the pipe of peace, it is a social register. To get a fugitive, furtive smoke from the bowl of the great is to stand on a pinnacle, to be refused a puff is to be discarded thence—social ostracism curable only by a law-suit for libel. A deal is closed over a bowl of smoke. The hatchet is buried over a puff of smoke. To brand a village elder

with infamy, it is enough to say that he had a whiff of smoke with a beggar. Smoke on rising ; smoke on sleeping ; smoke before a meal ; smoke after it ; smoke before work and after and secretly also during it ; smoke all the day.

T R U E will object to both smoke and tea, as slow poisons, but, smoke is worse as it attacks the defenceless human system not at one point,—stomach—but at three—eyes, lung and stomach. The hubble-bubble which is not always a pleasure to the ear, halves the evil as it denicotinises the smoke, but for one hubble-bubble there are 10 dry bowls. And then the evil is multiplied and magnified as opium and other dangerous drugs may be smoked dry.

Enemy *dust* is even worse than enemy smoke, if the latter goes upwards, the former goes sideways and does more harm to the individual and in the aggregate. It is most injurious when there is a wind blowing and barring certain hours of lull, there always is. How to mitigate it is not an easy job. Prevention is better than cure and the best prevention is to confine the sweeping of the house yard, floor, etc to such hours of early morning or late evening when there is no wind and no company. As dust layer at other hours, water is good but not ideal. Water is not scarce but entails great labour in the drawing of it. And everybody cannot be his own hewer of wood and drawer of water. The roads, paths lanes and alleys are kept in a constant whirl of dust, *perpetuum mobile* of an irritating kind, by the traffic, human, animal, vehicular. In the bigger cities urban councils employ watering carts. Humbler towns employ *bhistis* or water carriers and sprinklers. What should T R U E advise the villager who has not the means to afford that amenity ? Why, do his own watering ! If any villager, usually it is his woman—were to sprinkle the road facing him he would be keeping the dust down, improve his own health as also that of

the neighbourhood. This is not asking for too much. A little effort and a little method is all. Actually he and his family spill a lot more water without a thought. If only that spilt water and waste water is carefully caught in a cistern or canister, it will always be available for sprinkling on the road or lane, spraying plants, watering trees and the like. All this is a very elementary and therefore overlooked or even ignored. But it is up to TRUE to re-arrange the domestic economy on a more economic labour saving and effective basis.

Now comes the third great enemy to eyes and man : Enemy *wind* ! What shall be done ? The wind bloweth where it listeth. How to stay its course ? This is best done without effort and indeed with profit by planting useful plants to form a hedge. They will grow very fast and with suitable interculture form a wall dense enough to keep out the wind or strain it to innocuousness. The plants that can go to form such a hedge will be legion : fruit plants, flower plants, shrubbery, bush, creeper, cactus (*rambans*), anything. Among fruit plants, citrus, guava, *falsa*, tomato, papaya, plantain are the most useful and paying. Among flower plants, marigold (*genda*) is the most easily grown and forms the densest breast high wall. Other useful industrial plants may be intergrown. Thereby the villager will be killing two birds, yea three, with one stone:—Keeping out the wind and therefore also the dust; adding vitamins to his victuals, and putting money in his purse. So the scales shall fall from his eyes; so his eyes open in more senses than one, physically no less than industrially.

From eyes to ears is an easy stretch of the plan, slip of the pen, reach of the glasses. Parenthetically—and it is very weighty parenthesis—the use of glasses for eyes in the Rural Area is negligible or nil. This is not to say that glasses are not needed. Old folks might and do need them.

But this amazing anomaly must be recorded that with eye disease, rampant, correction through the apposition of glasses should be no desideratum. The reasons are two: Eye trouble is due to lack of personal cleanliness, as explained and corrected; and glasses can be dispensed with as vision *per se* is not distorted, disturbed or even weakened, which sadly is the case with those in the urban area and in Western lands who over-strain eyesight by superfine work in unhealthy artificial light. Rush, wax, tallow had, after all, a soothing effect but the present day arcs and lines of incandescence ruin the vision and drive the despairing victim periodically to the oculists in search of stronger and ever stronger glasses. Roughly statisticised, the more progressive a country, the greater the use of Electricity in factory office and home, the greater the night-hours stolen from repose and turned over to unhealthy labour, the greater the use of glasses in the street, public resorts and schools. Bad social customs afflict the East no less than the West. Formerly dinner used to be taken at noon and supper before nightfall. Milton writes of the hour when "the swinked hedger at his supper sat" which does not mean that the hedgehog sat on his haunches munching nuts but that it was towards dusk when the weary farmer sat down to his frugal evening meal. Now it is all topsy-turvy.

The hygiene of the *pars* is a bigger problem than it looks. Babies first: Head, forehead, hair and ears are lightly enclosed in a skull-cap which fits like a casque and flaps that tie under the chin. The object is to save from colds and the result is precisely a cold, as the parts kept hermetically closed are affected by the first gust when they happen to be uncovered. And the ears are the greatest sufferers judging from the fact that they are rarely cleaned out and wax collected sets up irritation, inflammation, flow and

worse. The adults fare even worse. East and West, it is the same tale of neglected ears and women are the worst sinners and responsible for the greatest anomalies. Outwardly the ears are loaded with the finest ornaments in precious stones and metal of the choicest makes and their still more dazzling fakes, but inwardly they are perfect pools of slime, not Siloam.

And the overflow reaches the outer ear. An European lady once asked the writer to examine her pearl under the microscope and say what it contained. The writer gladly obliged but with more accuracy than chivalry exclaimed: Lots of foreign matter !

What is the cause? Perhaps it is a case of out of sight out of mind. The ears are unseen; the pearl is never fully seen. Both are neglected. The wax can never be seen. It is only when the wax and other exudates brought on by complication obtrude on hearing that the villager calls on the professional ear-cleaner called *kanmailia*. This worthy is not precisely one of the world's workers. His is no science, still less an art; perhaps by way of apology a service. It is ritual which the acolyte, neophyte or proselyte or less politely the victim never sees but only hears and feels as his ear is caught by the lobe or the pearl and pulled up spasmodically where the high priest wishes to look into that dark, bottomless pit.. His spoon made of ready-rusting iron is rotated in the cavity till it excavates the wax and perhaps also the ear into the bargain. Finally a swab of much fingered cotton soaked in heavy vegetable oil is thrust into the ear to deaden the reaction to the scraping administered.

Wily woman is better off and better provided against ear disease than mere man. Her veil or scarf or *palla* of the flowing robe or *sari* which goes over the head and hair but not the face, unless coquetry so bids, affords ideal

protection to the ears from wind, dust, dirt, smoke and in the aggregate, also from the dubious attentions of the *kanmailia* as she is less incident to ear trouble. But that is not to assert that she is free from ear troubles. On the other hand, her troubles are just of another kind and it is worth while cataloguing them here and now. They are not incident to any particular age or age group but to all and indeed increase in virulence as time goes on. They are due to bad habits, bad models, bad ideals. Here is the list.

Very soon after birth the baby is put through the ceremony of *Kanchedan* and *nakchedan* which is boring of the ears and nose. A time will come for the child when it is going to be loaded with jewellery true or false from head to foot and in preparation for that dubious event in its life-time, the sooner the soft parts that can be pierced to receive the jewellery are put right, the better. And the piercing is done at as many out of the way places as ingenuity can devise and vanity suggest—the ingenuity of the jeweller and the vanity of the parent, for the child does not enter into the Talkie except as a howling victim. Thus the ear is bored at three places—at the lobe, at the top of the shell and at the middle of the shell ; and the boring is not merely piercing but holing and widening the hole as much as the size of the ear may allow and the avoirdupois of precious metal available dictate. So each hole is kept alive by stiffening it with a roll which is periodically widened to prevent the minor tragedy of ear piercing which is the automatically closing up of the hole. And now a word as to the function of the three holes in the ears : the lowest in the lobes are meant to carry hanging jewellery in the shape of pearls, drops, rings, pendants. These are not single pieces but cascades of jewellery overlapping one another. The most exaggerated form

is the *attahru-dijehru* which is an ellipsoid of gold and silver finely carved and chiselled with a tassel of lace or medallion or 'wire of gold and silver floated from the lobe on to the breast. The middle hole bears rings caught in a sheaf at the hole and for variety, as if the ornamentation were not beautifully bewildering as it is, a medallion in gold and silver may hallmark the ear at middle point. The top holes are the converse of the bottom ones and apart from individual bits of jewellery they carry a deftly wrought chain of gold and silver or imitation which sits light over the sleekly oiled and combed hair of the head from ear to ear and divides at the parting of the hair in the middle in two directions : one coming over and along the parting up to the forehead where it carries a star or a half-risen sun or a medallion that is the only metallic ornamentation for the forehead on the principle what can't be bored must be endured—and the other goes lightly sitting on the head up to the nape where it links up with the essential multi-coloured embellishments of the peals and coil of hair *à la grecque*. The curious but unchivalorous observer may note that the essential technique of beautification for the head is the same for women as for elephants and the weights respectively carried are not disproportionate and disparate.

A word as to super-ornamentation of the nose may not be amiss. The hole in the middle carries a drop like ear-drop. Only here it is a nose-drop or cascade. The nostril carries rings, small and big, and to show how much these nose-rings are in favour and affected by feminine gentility, a popular song may be quoted in which the dame is asking her gallant : Gift me a nose-ring of gold, O lord of mine !

Let this recapitulation not deflect us from our real purpose which is the hygiene of the ear and nose.

The piercing ceremony is not hygienically safe or

sound. It is done under crude village conditions which are not exactly those of asepsis. The instruments used are unsterilised, the washings and dressings are unhygienic, the widening is done with waste material under conditions of great insanitation. It is an open and standing invitation to blood-poisoning and tetanus.

The child is loaded with jewellery, gold and silver or imitation. In sober truth the flashy gauds have been the doom of the poor child as the numerous cases of kidnapping and murder of children for the sake of a few trinkets easily testify. It must be remembered that the child is more often playing about in the lanes outside his house than actually confined to his house or school, so he is easily decoyed, kidnapped and done to death.

Personal cleanliness comes in in another form. The jewellery that is loaded is not always removed. In fact it rarely is. Often it is considered a bad omen to do so. The result is that whatever is put on, stays. This is largely true of many forms of jewellery but particularly so of the pendant forms, hanging from ear or nose. Another fear is that, were it removed, the hole would contract or even close. It follows, then, that jewellery becomes part of the wearer's person, sitting on it, fitting it, tightening it and, so personal cleanliness begins to suffer. The part concerned can never be properly cleaned: the jewellery is a handicap and it really becomes a carrier of dirt and disease, especially where the laces, bands, girdles, embroidery-work is in permanent contact with the skin and its sweats and odours. In fact, even enlightened folk do not realise how far personal ornamentation may lead to personal uncleanness. A very serious-minded European lady—the wife of a vicar—once asked the writer to examine under a very powerful ultra-microscope which had come into his temporary possession whether the pearls of the ear-drops

which she wore only casually were cultured or cured or or artificial or real. What, now, the writer saw under the revealing spotlight was not the pearl itself but a lot of dirt in globular form which he haltingly reported to the scandalised lady as "*foreign matter*", a euphemism for dirt !

Now all those who wear wristlets, eye-glasses, bangles, or any adjunct meant for beauty or use run the same risk of accumulating a lot of *foreign matter* unwanted and undiscarded. But to return to the Rural Area, what shall T R U E tell the villager and his wife ? If he asks them to desist from the exaggerated use of superfluous, meaningless jewellery, he invites the scathing retort: Surely you do not want our matrons, and maids to go so about as widows? the idea being that it is only widows who go about without jewellery. If he asks them to spare their beautiful child all this senseless ornamentation, he invites another retort: Why have you not been to a temple or *leela* and seen how gloriously dieties look in jewellery ? And this is quite true. The best sculptured talent of Indian temples say at *Khajuraho* has shown the finely chiselled bodies of young folk bare of clothing but overloaded with jewellery.

In this quandary T R U E can yet give this sound counsel : Purchase jewellery if you must, if it gives a hallmark to your caste and affluence, but do not use it every day. Keep it for days of feasts, fasts and festivals ; hours of pomp, pageant and ceremonial ; moments of real joy and happiness ; and than gradually reduce the amount and opportunity for its use. Finally, better standards of social opulence, credit and well-being can replace those of jewellery. A villager may take greater pride in his fields, farms and live-stock than in the trinkets with which he loads his babies.

From ears and nose to *hair* is an easy step up but a big drop down in sanitation. It is no exaggeration

or untruth to say that the hygiene of the hair is a sealed book to all ; nowhere in the world is it properly understood. Hair disease and decay, graying and whitening and many other ailments of the hair leading up to baldness know no geographical frontiers. But much can be done in the field of preventive treatment.

The part played by fresh air and sunlight in keeping the hair healthy is not sufficiently realised. In the rural area the villager may go bare of body but he will not go bare of head. Any old rag, howsoever filthy will be coiled up like a honeycomb, whorl on whorl and turret on turret, to form a respectable substantial super-structure. The woman is, if anything, the worse sinner in this respect. She must, of course, keep her hair tightly combed, groomed and parted and covered by the piece of fabric forming the *palla* at the same place for an indefinite length of time. Apart from the wear and tear the oil and ooze leave indelible marks of filth on the top of *palla* which stands out. In such a case those women who keep their hair uncovered as in the west of India, are better off but then social custom has to be consulted and its vetos respected. And back of the veto may be a strong ground of common sense. Thus in the mild climate of Western India women can afford to go bareheaded but in colder latitudes of Northern India the head must be adequately covered if chills and colds have to be kept out. In any case, whatever custom or fashion may dictate, if the hair is properly washed and aired and sunned periodically the first essential step shall have been taken to ensure its hygiene.

The hygiene of the *body* is at once easy and difficult ; it is easy because the villager has his bath once a day but it is difficult because he has not much in the way of change of clothes. The problem is economic, as much as if not more than, sanitary. What use, it may be argued, is

frequent washing, if you put on the same dirty clothes at the end? On the other hand, if the villager were better provided with funds, he would sooner put more food into his body than clothes upon that body. There are two satisfactory features, the clothes are frequently washed, in fact, every time the villager takes a wash his clothes too are washed, because he does not strip for his bath; and secondly his clothes sit so loosely that the body does not retain its odour and gets air as it is.

Hygiene of the body presupposes a reasonable care of one's clothes and that unfortunately is not forthcoming in the Rural Area. In a superficial sense the villager will take great care of the *dhoti* which wraps him, and his wife of the *sari* which protects her, because they cannot afford to discard or change them, freely, frequently, or at all; but in a deeper sense the same cotton *dhoti* and *sari*, evidently much the worse for unabating wear and tear, does not receive all the watchful care it deserves, for this would reveal it to be the carrier of every conceivable form of bacterial flora and fauna or both which can survive repeated rinsing and pullulate in the sunshine above and body heat below. Fumigation, steaming, sterilising is all a counsel of perfection and despair. Where not even a soap is available and *de rigueur*, other reagents are clearly ruled out. The danger is more severe and widespread than appears at the surface. Even the excellent sanitary practice of burning all the personal linen of the deceased, especially when he has been the victim of an incurable disease and his death shows every disease to be incurable—does not obtain, and sweepers are known to come to blows and go to law, when such linen does not go to the rightful beneficiary. And worse than the sweeper is the washerman, who is not in-a-pt to make temporary confusion of *meum* and *tuum* and a mess of all the linen from so many households which is

at best water-laundered and never with steam. Even in the regulated, sanitated households, European or *à l'Européenne* there is no guarantee that the Dhobi, no matter how so highly paid, private and personal, is not also washing for people other than his master and mistress and mixing up all sorts of clothing in the mixed bag which the unwashed donkey will carry on his galled back with unmixed lethargy—A classic case has passed into Anglo-Indian literature in which the heroine, thrill-seeker in the land of thrills which is Anglo-India, strolls on to watch a funeral procession of a woman, borne sitting, dressed in finery and jewellery, to the accompaniment of loud music, to her grave and recoils in horror when she realises that the corpse is dressed in her own blouse, which has been in the hands of the launderer, who was obviously turning an honest penny by loaning it out between whiles !

Fortunately in the Rural Area the lower, poorer classes are their own launderers and much onter danger can be averted—the only damage is auto-inflection. House laundering is not, as understood and practiced in Europe, confined to one day called the washing day in the week. On the contrary every person is his own or her own launderer and every day in the week is washing day. The person has his bath with running water in the open, stripped to the maximum consistent with decency which is never in the nude, and after scrubbing and washing and drying, exchanges the wet *dhoti* for the dry one and dries out the used one which is ready for the next day. Thus one pair of *dhotis* ensures body hygiene and compliance with religion by bathing before meal for unlimited time. The position of woman is not very much different. They are adepts at bathing *al fresco* as may be seen in the millions who indulge in mixed bathing as pilgrims at big religious fairs.

Last comes the hygiene of the *feet* which is most difficult to perform and most dangerous to neglect. Considering that the majority of the residents of the rural area do not use footwear, certainly not within the village itself, there can be no such thing as a proper hygiene of the feet and the dangers due to omission are doubly serious as imagination staggers at the infections which the dwellers bring inside their simple dwelling when they come back after walking bare-foot all over the village main streets and bye-paths. Here a mangy dog has lain in their track and is just clearing out the way with a growl leaving some of the mange to be picked up by their bare feet. There a child with deranged digestion has left its stool in the public street and the walker's foot accidentally steps on it. Further on, in a secluded bye-path a sinus-smitten old man has washed his sores and his wash-water is still wetting the track and adhering to the walker's feet. And so cases of appalling insanitation could be easily picked out, pilloried, multiplied. Let the following everyday scene suffice: Along comes a dainty maiden with back gracefully arched under a pitcher wading through the back street made insanitary through just such sores and afflictions as exemplified—but not exhausted—above and without further ado she ambles up to the lip of the well, sinks her pitcher, pulls it up laden with water with many an *ah* and *oh* and during the transfer from the mouth to the lip spills several pulls of the water from the pitcher to her mud-stained feet and thence back into the well, fully charged with all the infections which her truant feet have picked up on the way. The well is clear carrier of infection. "Think of it drink of it, then, if you can" !

Efforts have been made first spasmodically, then systematically, to teach the villager the business of *physical*

training, especially *physical exercise*. These efforts have largely failed of their purpose. The reason is not far to seek; it lies to hand. The chief reason is that there is so much physical activity, not to say strain and overstrain, in the daily life of the villager, which is a daily grind, that there is no room left for physical exercise. From morning to evening he is on his legs, either on the move or standing. Compare him with his European brother in ploughmanship and you will see the powerful balance of physical effort in his favour.

1. The European peasant gets up and ready for work within his room. The Indian has to trudge big distances merely to ease himself.

2. The European farmer mounts the plough and drives his team afield. The Indian has to trudge and to hobble, double and stumble over every sod that is turned or broken.

3. The European farmer has his regular meals, work-time and play-time. The Indian has drudgery.

4. The European farmer knows something of the richness of life. "How jocund did he drive his team afield!" says Gray in his *Elegy* written a country church-yard. When his Indian colleague is driving his unwilling team afield, all one hears is curses, curses, curses all the way. And these are not damnatory but disgustingly genito-urinary.

5. The European farmer has plenty of leisure. He can find time for games, sports and exercises—be it wrestling as in Cumberland & Switzerland or cricket or dancing or what you will. The Indian farmer has so much drudgery that his little leisure if any is all taken up in relaxing himself after prostration and smoking and possibly drinking to forget himself.

This is a gloomy contrast but essentially true. At the same time let it not be believed that there is no room for exercise in the Indian Rural Economy. How to find and fill that room will appear from a subsequent section later on.

7. Work becomes drudgery when there is no heart in it ; and there is no heart in one's work, when one finds the prospect gloomy, and gloom is cast over the future when there is much uncertainty, deserved or undeserved, about it. Now constitutionally every farmer, East or West, is gloomy by nature, for is not all his life and labour at the mercy of the elements ?

And if it is at all true to speak of the so-called Depressed Classes in the West, it is the farmer class, and no matter how jovial a farmer at a game of cards or other enjoyment, you can depress his spirits visibly by merely asking him about his crops and weather. But this depression should not be mistaken for helplessness. On the contrary it has made him more resolute. He has not put all his eggs in one and the same basket. He has poultry ; he has pigs ; he has horses ; his family have the numerous cottage industries from lace-making to jam-making. What is the secret ? He works economically. And what is the result ? He has leisure.

The Indian offers contrasts all the way. He has neither economy nor efficiency nor leisure. He has the curse of fatigue and the resulting disinclination from doing anything. What shall T R U E do to help him ?

8. The first step is to raise the standard of living, taken in its broadest possible sense, As things are, the villager cannot be said to be living at all, he is merely vegetating just making two ends meet, subsisting on the minimum of diet, propagating his poor, sorry species and no more.

• How to raise this *loin-cloth standard of living*—which is the minimum of food, minimum of clothing, minimum of shelter? The villager raises or can raise every foodstuff under the sun, the necessities of life no less than its delicacies. Now, why can he not consume a little himself of the lot that he raises, or can raise for the outer markets? Were he to do so, he would be doing double good—good to himself and good to his market. In one way he would be putting more food in his stomach and in another, more money in his purse. It is a very familiar trick of the trade to reduce stocks in order to remove the glut in the market, even by destroying them. Thus one country has whole shiploads of coffee beans sunk in mid-ocean; another destroys half of its potato crop and a third of its melons; the whole object is to raise prices. So the Indian villager would be doing something much *more sensible* by himself consuming part of his own stocks.

9. But the villager is not likely to accept this simple solution, such is the curse of habit which has become second nature to him. What was good enough for my father and grandfather is good enough for me: that is his argument and attitude. There is fallacy in one and falsity in the other. His father and grandfathers used to have their public fountains or *piaos* where the wayfarer might get a drink running with milk, so much of it was produced for the home and village. Now, the well-spring of charity has so far dried up that there is not even water available for the thirsty wanderer who is left to fend for himself with the exiguous *lota* and string. The curse of habit is really a curse of bad habits. The good habits have gone by the board; the bad ones have stayed on—hardened and petrified into the very core of village life. Some can be imagined: others must be seen to be believed; but many more defy comprehension and belief.

10. It is all a stranglehold of vice, if one may speak out without mincing matter or buttering phrases. The old order changes, but dull man has not changed therewith. "The old order changes and God fulfills himself in many ways, lest one good custom should corrupt the world": But the villager has remained stagnant. The virtue of good custom has sublimated, evaporated, the hard crusty shell of vice still remains and the villager hugs it to his bosom. At feast or fast or festival, public worship or personal ceremonial, the same inevitable stranglehold of vice pins him to the ground. Good ancient custom bids that there should be feasting on certain occasions : but it is no part of its bidding that the villager should run into debt, encumber his little property, mortgage his body, soul and mind in order to raise the wherewithal for entertaining to a grand banquet all the so-called *biradri* or castehood—too few real friends and relations and too many idle mouths who blatantly pretend to be so and push themselves into the circle as unbidden guests. Still less is it a counsel of virtue but a dictate of vice that the villager should indulge wholesale in intoxicants, partaken with smoke, with food, with drink and in many other subtle ways on occasion such as the spring festival, where Saturnalian orgies due essentially to this degeneration have departed from the truth and virtue has ceased to be. The *holi* festival which should show villager at his *holiest* betrays him to the critical observer at his vilest and filthiest. The songs, the practices, the dances, the debauches, all partake of that quintessence of vice associated with sex and sin. That a heavy crop of violent crime follows these orgies and feuds are started and animosities embittered, goes without saying. Even such a harmless, perfunctory performance as a fast has a shady side to it. The unhappy villager dare not break his fast with a meal alone, in order to reap full

religious merit but, must in a perverse, preliminary overture entertain to an expensive banquet all the rubicund, orotund, mediatund priests within and without his village that he can get bidden to the function. Greater still is the degeneracy of the moral fibre and the debauch of good custom by vice in the festival known as the *diwali* or the festival of light, which has veritably become the orgy of Stygian gloom. House and yard are decorated; a feast of lights in the shape of twinkling tapers provided in every nook and cranny and coign of vantage; worship is performed; and perhaps the cleanest holiest, ceremonies gone through in honour of the Goddess of Health, Wealth and Wisdom—*Lakshmi*. But so great is the heritage and aftermath of vice wrongly associated with the sweet rites in her honour that verily might she exclaim: Save me from my worshippers! For unluckily the great goddess has been wrongly associated with Luck, the Forlorn Hope of the Undeserving. The result is that every one tries his luck on her day of *Diwali* and gambling in the most desperate and outrageous form is not only permitted but encouraged. Crime goes up by leaps and bounds, homes are ruined, families sink deeper in the mire—but no matter, let the wild lottery go on.

11. The villager would himself be his own saviour if one essential factor in the situation were not missing. Evidently the villager is lacking in *moral strength*. His moral fibre is atrophied or he would be able to offer stouter resistance to the depravities of good customs whose virtue has disappeared under the excrescence of evil practices. He has not the moral strength to oppose anything or anybody. He is in constant terror of offending the caste and incurring the penalty of a big feast for its appeasement.

12. The prospect is without hope and worst of all

he has not even the faculty of standing up and looking forward to that or any prospect or prepare to accept any future, dull and drab or gay and good. There is no spiritual lever to lift him to that or any height. More important and pressing in its urgency than rural uplift is spiritual uplift, but the day of spiritual uplift or revivalism must wait till Greek Kalends. He has become so bestialised by the hard blows of fates, so unnerved by the struggle for existence, that the meaning and message of *spirituality* is lost upon him.

The feeling, for instance, that all sentient, living beings are one and at one with the Super-one is dead, blunted and lost and does not operate and translate itself into action or does so confusedly and perversely. He does not view all biological specimens—plants, animals and humans—in their proper perspective but curiously warped and distorted by the tinted glasses of his own ego-mania, which is half conscious cowardice and half unconscious cruelty, a token of despiritualisation dire. A few salient instances will drive this heavy charge home and show up the astounding anomalies.

Plant life is sacred : the villager will not break a twig, cull a flower, pick a fruit after dusk, because these sentient beings have tucked themselves in and put themselves to sleep. But he will not hesitate to walk through standing corn, growing seedlings, trampling them under foot without a thought or care.

Animal life is sacred : and yet the villager will have no compunction in beating the animals almost to death when for causes over which they have no control these animals do not respond to his wishes. He will furtively sell off a sick animal to fall under the butcher's knife, Poultry suffering from white Diarrhoea or T. B. will be cheerfully sold for the townsmen's table and the townsman

will consume it with gusto, unmindful of the poisons he is imbibing. His cow he will milk dry to the very blood and then apply nettles to the soft parts to agonise the unfortunate animal into yielding still more. The cow is sacred and yet she will be mishandled most unsacredly. The dog has a still higher status. Arjun is said in the scripture to have refused admission into heaven unless and until his faithful dog were allowed to enter alongside of him. And yet the villager's dog is just nobody's animal, and never gets a kind word, look, gesture from the villager or his family from the beginning to the ending of his stricken mangy existence, and yet such is the irony of fate no watch dog of the best breed, no Alsatian, no Schaeferhound, will show such a stubborn attachment to his master, his vehicles, his animals, his goods as to follow him on long pilgrimages, walking quietly behind his bullock cart, fighting all the wayside dogs into whose beats he must perforce intrude and content with the orts and leavings, really bits of dry bread, which the master discards from his meals. Animal life is sacred and yet during the long, hot, dry months, the domestic animals have no chance of getting a wholesome drink and may easily be licking the drains along wells and houses.

Human life is sacred and the hiatus between precept and performance is still more staggering. Human life is sacred and yet a child will be ruthlessly murdered for the sake of a few pice worth of trinkets. An old woman will be done to death for the sake of a worthless bead necklace. Far from sacred, human life must be very cheap indeed if female infants can be killed off like blind puppies and widows immolated on the pyre—the first because the family cannot really afford to give them protection, and the second because it is in the interest of the family to get an idle mouth out of the way. How

low female life especially girl's life is assessed may be gauged from the peculiar drama of Krishna Kumari, in which a father compels his daughter to kill herself just in order that two chance suitors should not come to fight it out. And as to widow-burning the romance of Job Charnock who won himself a bride by rescuing just such a widow who was being done to death on the pyre will throw a flood of light on the insanity of an unwanted custom. True, female infanticide and *sati* have been suppressed but their spirit subsists, is in fact going strong and stalks the land. Women are left behind and in special need of protection and uplift, because they have been religiously neglected through the ages. The village father lets his girl and parent die of neglect just because his wife has presented him with a female while he was looking forward to a male. A brother and sister in their teens are both attacked with cholera. The brother is given all the curative care that art and science can afford: the sister is left severely alone. The brother takes one month to recover, the sister who crawls up to the water-chatties and helps herself liberally to many drinks of water, recovers in just a few days. Evidently Dame Nature was kind when Art and Science were groping in the dark and the cruel wrong done to the girl by her parent's neglect and with such a background, all such promptings of a Nature's gentleman as chivalry, courtesy, ladies first, become meaningless terms. Human life is evidently not worth much. The female is especially a beast of burden; if she breaks down under the load, why then her mate and master will marry again, and yet again, so feathering his own nest every time in the process.

The anomaly of marriage calls for particular notice. Strictly speaking it is neither marriage nor mating in the sense of and with the object of procreation. It is largely a doll's affair. So to speak, the boy and girl who know nothing

or understand less, are put through their paces, actually genufloxious and circumambulations and hey presto: their lots are linked for this life and the next. The girl may, and usually does go back to her mother not because the in-law parents have so much consideration for the tender feelings that bind together a mother and daughter but because the girl is not strong enough for the household chores and must be fed up at her own mother's house and strengthened for their hardy slave's life that awaits her. And once she nears or crosses puberty she is ordered back to the in-law house not because the husband calls for his wife, but because the mother-in-law wants the slave that has been bought and paid for. The result is that the girl leaves her home and mother amid much misgiving and loud lamentation and indeed such mourning parties of women may easily be seen at the crossroads or partings outside villages. And then the mother-in-law proves a veritable dragon: She gets all the hand work out of the new slave and waking nights keep her by her beside. The dummy husband has no independent house, stability, status or even existence, he is merged in the joint family and must bow to the will of those who law it.

Such is marriage without love, on a strictly business basis, completed on contract or sacrament, when the girl is young and costs less. Such a peculiar bargain is doubly popular, the girl's people are rid of a worry, the boy's parents are glad of the bride on the cheap.

Where love is missing at the start, it never comes in at any time. The relations between boy and girl are purely sensual and procreation becomes a sordid business. The father-in-law must have his grandchild and another. The boy must go on begetting; the girl, bearing. Whatever the state of their health or disease, children must be brought into the house, even if they do not survive and

if the father and mother ruin themselves in the process. Is there any wonder, then, that there should be so much disease in the rural area ?

A word about the latest panacea for the ultra-civilised, *birth control*, is indicated. The Rural Area has no comprehension and even if it had, it has no use for this stratagem to defeat the promptings of nature. The rural father wants sons, more sons and yet more sons. The birth factory is working at full speed, at times with double and treble shift for the rural husband does not hesitate to have two or even three wives. But fortunately this trend to polygamy is kept under check by the economic factor, as he will not be able to feed and clothe so many dependants, however great their actual and potential utility.

Strictly speaking, those who glibly advocate Birth Control for India and particularly for the Indian Rural Area overlook the special circumstances of the case which already has got controls, checks and impediments unknown in the West where the shibboleth was broadcast. To get a complete picture one must pry deep into private matters but as the Birth Controller has himself in his talk and hints cast all privacy to the winds, no apology is needed for indelicacy of reference. In Europe husband and wife share one and the same and very often it is not even a big joint bed but a single bed. And where an errant, peccant, clamant, recalcitrant or debile husband sleeps alone or goes in for what is bluntly termed "*faire chambre apart*" he gives gross cause of divorce. In India it would be an equally gross offence to morality if husband and wife were to keep only one bed and let it be seen and known. So chamber apart itself operates as a very healthy, wholesome check. This introduces the Platonic element into conjugal relations. Next, comes what may be termed the Mosaic element. The excellent Mosaic Rule of twice O' weeks is

more honoured in the breach than in the observance in the West. The Indian counterpart is more rigidly and religiously observed. There comes the religious check. Certain days and certain periods are impure and husband and wife keep apart religiously. Indeed so strong is the taboo that the wife has to keep severely alone and may not even help in the household chores for what she speaks is unreason and what she touches she defiles. Still more effective if less noticeable are the checks imposed by the obvious difficulty of husband and wife getting a chance to be together unmolested and unperceived. All the blatant publicity and promiscuity of the joint family life is responsible for this and worse inroads into conjugal life. The wonder is not that so many children are born, but that children are born at all.

Finally the Birth Controller, even in his Homeland and indeed most so there, suffers from wrong logic. If the father and the family and the state cannot look after the children, surely the fault is theirs and not the children's ! Obviously, if the state, the family and the father were more successful in husbanding their resources they would be able to look after the new generations better and better justify their existence before God and man. If the Birth controller were fully consistent and reasonable he should conduct his propaganda in labour exchanges no less than in maternity homes and plead for fewer labourers as a solution of the Unemployment Problem. Or again in an area which is being ravaged by an epidemic he should come forward and advocate smaller populations with a view to minimising the loss of life.

The whole truth is that in any every economy, State, no less than Home, there are temporary derangements, dislocation, mal-adjustments, giving rise to local problems which call for solution through the rectification of the

existing or continuing imbalances, but certainly not through the elimination of the Human element which is subversive of the whole universe and brings chaos into its plan and order. The Birth Controller really becomes Great Anarch.

To revert to the villager, every little helps—barring Birth Control. But the greatest desideratum is that he should be set upon his legs and restored to normalcy which in the physcial sense means good health and without which there can be no well-being and no well-faring or welfare. He takes perverse views, he behaves crookedly, he acts with unreason—the root-cause is that his mentality is not sane. *Mene sana in corpore sano*—a healthy mind in a healthy body. How to ensure good health for both mind or body or better still for the body first, and then the mind will attain soundness unaided—that is the problem of problems. No solution is possible unless one probes long and deep into his sufferings, their unalterable nature and compelling cause This is attempted in the section that follows:—

Disease and Health.

An eminent English clinician and active researcher in Human Diseases about whom quarters usually very critical have asserted that “he is a figure of such size that it will be difficult, if not impossible, for his own generations to form a just estimate of the importance and value of his contributions to medicine” (F. N. E. R. McDonagh L. R. C. P. F. R. C. S. London Eng. P. 504 V. 40 American Journal of Clinical Medicine and Surgery, Chicago October 1933) has come to the conclusion (p. 507 *ibid*) that there is only one disease process and that all the multifarious conditions that we read of in the textbooks are different expressions of the same fundamental process for after all, even in infections it is not the particular micro-organism that is the important factor in disease ; it is the patient's

reaction to the invader ~~and~~ the reaction is the same in essence whether the invader be a micro-organism, a chemical, a physical or psychologic agent. We must get away from thinking of "diseases of the nervous system" and the diseases of the circulatory system" and remember that the body is an indivisible unit and that there is never disease of this or that system without disease of the whole organism. Following from this we must appreciate that the same essential system or organ is principally affected. And the organ which is affected is determined more by the body's resistances than by the invader.

This affords an admirable approach and guide to the heart of the problem of disease as it affects the villager, his wife and family. See him, see them as they dawdle along. How few can walk straight. View them well. Their bodies are open, standing invitations to all invaders to come in and work their pleasures. Far from offering resistance, their bodies will collaborate with the invader in establishing every phase of disease.

Predisposition and predestination. To say that the villager is predisposed to disease is true, but is not the whole truth. There is not only predisposition but also predestination. A destiny unshunnable operates and the villager, no matter what his status, high or low, knows it, feels it, reckons with it. Every family may or may not have its secret cupboard, and its family ghost, but it has got its typical destiny. In one family the mates from father to son and grandson die off before they cross their thirties. So hath it been, so be it, who shall attempt an obvious cure through better living, better being? Who, indeed, attempt to thwart the family destiny from releasing itself? In another family destiny weighs hard on its daughters. They are destined to die off before, during or after child birth. Who shall probe into the cause and pillory the really

guilty persons for this decimation ? Who dare point the accusing finger at the husband, the mother-in-law, the father-in-law ? The husband in his family is more or less a puppet and nincompoop and even if he has the brains, he has not got the guts. The father-in-law has the ways of a dragon and the mother-in-law a heart of flint. Between the three of them the girl-wife is sent to her doom and done to death—murder, slow and unrefined, by inches; by words, by deeds, by looks, by neglect, by disdain, by contempt. Before child birth the poor girl is made to do all the household drudgery for the unholy trinity. During child-birth the dirtiest sweepress is called in with her antique scrap iron which is laid to sepsis ; after child birth she is left to die of fever and indeed goaded to death with taunts and sneers for shirker and a shammer whose medical needs are cutting holes into the family purse. The doctor, if consulted, might pronounce the root cause of it all to be predisposition to disease. The poor deluded soul will never know the truth that the girl left her mother's home a plump girl in all the glory of her teens and has ailed and aged in her in-law's abode under treatment compared to which the galley slave was in seventh heaven. And if the full truth were known, public opinion vocal and popular conscience acute, the in-laws would be promptly put beyond the pale as outlaws of society.

But let this not mislead : predisposition there is and has been for generations and predisposition raised to *n* th power is predestination. Let a few facts and fallacies soak in the mind. They all form part of make up and complete the vicious circle and every time the Rural Uplifter has failed of his purpose the wheel has come full circle. Why is the villager predisposed to disease ? Because he has not enough reserve strength. Why not ?

Because he is living on the brink. Why so ? Because he cannot afford to live better. Why not ? Because he does not get enough to eat and wear and enjoy, because his agriculture is not paying. His dairyherd is not yielding. His cows are poor milkers. His bullocks are poor pullers. His family has forgotten the ancient arts and crafts and recipes and domestic industries. Theirs straitened, necessitous circumstances may not have been of their seeking or choosing, but they beset and overwhelm him. To get stronger in his person, family, live-stock, he must produce more ; but to be able to produce more, he must have more strength at his disposal : his arm should develop a few more ergs, his diet a few more calories, his bullocks a little more stay, his family a little more health. The two half-circles meet and merge into the complete vicious circle which hold faster than Magdeburg spheres.

The villager will sit at home and cry on Fortune ! *Kismet, Kismet, Kismet !* The True Rural Uplifter will give it home to him and interject : *Not a bit, not a bit, not a bit !* The whole tragedy is that he has not changed with the times and the times have left him behind. He has not modified himself with his milieu, which has discarded him as an excrescence, nuisance, a tumour malignant or benignant but in every case repugnant, and the tragedy unseen is greater than the tragedy seen.

Along come three living generations of a family. Grandmother, mother and daughter are aged 56, 40 and 16 respectively. Somebody, long ages back, sowed his wild oats, these three generations are still reaping the tares. Grandmother has got very bad eyes but the general health is tolerable. Mother has got hers worse affected and her general health is poor. Daughter is sound to look at, as she fixes her clear eyes at you, but her eyes are *without vision*. *Wassermann plus plus plus* says the

specialist. Atrophy of the optic nerve. Total blindness as a consequence of inherited venereal affection.

It is a mistake to imagine that predisposition will abate with the flux of time. On the contrary it may, and generally will, go up in geometric progression, while time runs its arithmetical course.

Along comes another group of sufferers: father and son—38 and 18. The son is pitted with venereal pimples and complains of bad blood. The father is groaning with agony due to a running ulcer on the scrotum. The son should have greater resistivity to disease due to youth, but actually the father has put up a stiffer fight. At the same time the son has greater predisposition and his relatively robust constitution goes down to the infection.

Along comes another family: mother and 4 children all suffering from eye trouble. The mother has granules, the youngest has cataract. This is predisposition and its consequences dire, with a vengeance. But perhaps it is all inherited or also acquired due to lack of care and insani-tary habits. Ask the mother why she is using the same linen for wiping the eyes of all her kids, because it is obviously spreading the infection. Will she be shocked? Will she desist? Not a bit! She will throw up not 5 fingered hands in horror but one hand in impatience and exclaim. It is all destiny!

Predestination! Not un-orientally has Omar questioned his Maker: Wilt thou with predestination hedge me round and then impute my fall to sin? The village mother is above or below and anyhow beyond such philosophising, but the iron of predestination has entered deep into the villager's soul. The greatest scourges, afflictions from which the conscientious god-fearing, man-loving Westerner or Westernised Indian would recoil with horror, have become objects of endearment and put on a pedestal

for love and adoration. Let a few striking examples throw a spot-light on the morbid mentality, which calls Death, Love with velvet eyes. *Toi, Belle Mort Aux Yeux De Velours Qui Me Lorgnes!* Small-pox, the great decimator of child and adult life which leaves the mark^o of the pock pitted face and the sightless eye is called very endearingly "Mother" and when this worse than stepmother, visits an unhappy child, the family exclaims with adoration: The mother is paying us a visit, as if the whole family must wear sallow mark at face and eye. Vaccination is of course taboo and it needs more than persuasion to get infants and mothers to line up for the vaccination parade. Cataract which disfigures the eye and robs it of vision is called pearl, the pearl in the eye. Pearl in the ear-lobe one can understand and admire; but a pearl in the eye ball is much too macabre for the normal aesthete (and death itself is a welcome guest when it is a widow or an old men or old woman who dies). Take another still more revealing instance, gout, sciatica, rheumatism, lumbago and kindred ailments. They are put together roughly as *gathia bai* or aunt sciatica. If mother small-pox, why not aunt sciatica? This ailment, too, is unduly common and incident to ages, which in Westernlands are immune: as much as 10 % of the incidence is monopolised by children under 15. This aunt pays her maleficent attention to young as well as old. Predestination !

Acquisition and inheritance of disease do not have the same meaning as elsewhere. There are so many puzzling, confusing factors grounded in this overwhelming sense of predestination that no one truly says where inheritance ends and acquisition begins. Their borders do not march parallel. They overlap, cut across and through each other and lose all meaning. In the distressing atmosphere of general insanitation and particular indigence and special subservience to fate, anything and everything is possible.

Suffering may be inherited, the subject may be predisposed to it ; incidence may be accelerated by environment. At the same time acquisition may be retarded in a special case and infection countered exceptionally by the development of anti-bodies and opposition to the invading microbacterial host to which the normal subject may without a struggle succumb. This is typified by child mortality and child survival. Children die off like flies but the few that survive must have developed superb resistivity if they have withstood the onslaughts of micro-organisms known and unknown to medical science born in the filth and stench of the dilapidated lying-in shed which attend on their birth and after. True, many such are badly marred and scarred in the struggle for survival. Face may be pitted, eyes may be reddened, the belly plastered with sores, the body cramped with rickets, but the fact remains that the hopeless infant has survived the initial struggle for existence. How it shall stand the further bouts of disease and buffets of fortune that await it is for the future to answer, but it needs no prophet to assert with emphasis that it will add to the sum-total of human misery on the physical no less than on the mental plane.

*A survey of suffering :—*This is an age of plans, censuses, surveys. The incubus of statistics rests heavy on every public, corporate, co-operative activity. If you cannot do anything promptly for a cause or a folk or a class or a movement, you may as well collect and compile its facts and figures and present them strikingly and draw lessons appealingly. Obviously, there is good gain in this. But let the limitations of statistics be clearly realised before one begins to play with it, so that one may not make a fetish of it and beware of its shams and shibboleths. For: in a strict view, statistics rightly

handled helps up to a point, thereafter it betrays.

Arithmetic is a science, a branch of mathematics, which are all exact sciences. True, they admit of partial solutions, approximations, approaches, assays, evaluations, first steps and the like in special cases, in which a general, rigorous solution may not be possible or feasible or compatible with the means at one's disposal or commensurable with the time and trouble entailed in the search for it; but finally such inexact, inelegant, unrigorous solutions have only their short cut and expediency to recommend them, they are stratagems which serve a purpose; they remain so to speak the back door of the science and do it no credit and should not be confused with its facade or the science itself. All such lumber as gains entry through the rear must be dumped together as the art of statistics and comprises largely artifices, tricks of the trade, "made easies"—also "speak-easies"—in which unintelligible, unknown, uncontrollable factors and variants are ignored—not eliminated as some enthusiasts delude themselves and others into thinking—and tolerable results are obtained capable of immediate application (and interpretation) to the practical problems of the practical man. Statistics is an art. It is also a craft, and as its name implies it is state-craft. By indirections find directions out. By approximations, interpolations, extrapolations, transformations, eliminations and all such devious crafty devices get at workable results. Some protagonists, not mathematically minded or trained, say that we are dealing with the science of probabilities. Scientifically considered, there is no such thing as a science of an *unscientific thing* like probabilities. It is a contradiction in terms. Practically speaking, probabilities are very valuable, stock-in-trade of the statist, the statescraftsman, the statistician, to give him his most innocuous name. For where certainties

are unknown, probabilities, properly handled, allow sufficient purchase for action and play-room for prophecy. But they are inexact and even erratic at core and this core must be clearly recognised. To take a classical example : what are the chances that a coin tossed in the air will drop head up or tail up. ? The probability theorist says 50-50 or $\frac{1}{2}$ and $\frac{1}{2}$ and will qualify and expand that prophecy with the sweeping remark that if the coin were spun a very large number of times, half the time it would fall head up and the remaining half tail up, which to the mathematical scientist, and not the statistical phantast, is obviously absurd. For the two faces are not alike, the spin varies, the wind changes its strength, intensity, direction and the factors which are wilfully ignored under the pretext that they are eliminated, being alike, will come back with a vengeance and falsify all prophecy.

To condemn what might be truly termed "statistolatry" is not to forego certain advantages of rough and ready procedure. These are of particular use in demography and all its applications for the welfare of democracy. Errors in such applications, due to errors in computation caused by lack of vigour in mathematical treatment and reasoning may be appreciable. But the only excuse is the greatest good of the greatest number, the only justification is practical expediency, and the only result is definite progress. And when the field in view is particularly difficult or unmanageable, the need for such treatment is all the clearer and more imperative.

Human physical suffering is such a very difficult field. How to get at the sufferer, how to assess the suffering, how to synthesise it, how to draw the necessary conclusions and secure greater insight into the volume of suffering, in order to formulate measures of relief—*the greatest need for Rural Uplift*—all these are questions of procedure bristling

with practical difficulties. The existing reporting agencies—the village headman, watchman, schoolmaster, accountant, have their own work cut out. They cannot make a house to house survey of suffering, assuming that they were competent enough to do so and their presence everywhere welcome. Both these assumptions require a very high degree of qualification and reserve. As to competence, not one has his medical outfit in mind or material or could tell one trouble from another. Even if they could, their presence would not be welcome, even if tolerated for a while. Personally they may be above suspicion and beyond reproach, they may yet cause misunderstanding, misapprehension, misgiving, leading to the enquiry being vitiated. Thus the accountant's visit may mean more rates and taxes. The watchman's round may mean unwelcome attentions from the law and the police. The headman's call may mean mischief unseen and therefore all the more to be feared. And the high caste dominie dropping in may mean useless feast for the unbidden, unwanted guest, who should have stayed away. Such will be the more evident reactions on the rural mind, if these so-called reporting agencies get to work. And in every case the rural mind will fear segregation and withhold all information and mischief-mongers may spread tales of bribery into the bargain.

Such a survey will be impracticable, incomplete and fail of its purpose.

However, another more direct or effective method can be tried and that is to get the sufferer to come out and report himself. If he comes to know that in her or his village a new centre of relief has been established, he will promptly come out, report his case and seek such relief with alacrity and all cases will behave so without exception. Even bed-ridden cases, paralytics, cripples,

incurables, will beg borrow, hire or anyhow secure a cart or a doolie to bring them to the new *Messiah*. And they will come all the more willingly because they will already have tried existing sources of relief at their disposal without success. For, if successful, they are reckoned cured and drop out of the record of disease or survey of suffering; such successful cases will however be very few for medical relief in the rural area is notoriously scarce. The sufferers try quack cures, charlatans, mountebanks, *jharo-plunko* and all such inexperts as are positively dangerous. After having exhausted their ministrations and, with more than usual luck, survived them, the villager suffering, physically, reconciles himself to his lot. Such a one will be the first to attend the new centre of relief at or near his doorstep.

Adequately to function as an instrument of survey, so to speak as its plane-table, the New Centre of Relief must fulfil certain necessary and sufficient conditions :

(1) It must enjoy a high degree of credit and inspire a large measure of confidence.

(2) It must provide adequate, prompt and convincing relief so that sufferers may queue up and come up day after day.

(3) It must alleviate suffering and tackle disease all round so that every type and quality of ailment may be indexed.

(4) It must be perpetually on the move, so that the whole countryside may be scoured and its mass of suffering touched and reached and recorded.

(5) It must have the element of novelty which will attract the ailing population, overcome their pessimism, super-imposed on the native apathy, imbue them with hope and fire their faith.

How these fivefold desiderata have been met and the Rural Area served and relief administered and a rapid

survey completed and far-reaching results obtained constitutes one of the most fascinating pages of the New Science of Electroculture and its application to human needs.

Electroculture does not promise a new heaven and a new earth and a new nature. It only—and what a lot that is!—helps nature to realise herself. In fact, *Electroculture* may also be paraphrased as *Electronature*. How does it act?

The basic principle is very simple: Wherever there is cellular activity, there is electric energy and conversely. The basic principle applies to all biological specimens—Plants, Animal, Humans. Wherever there is sap circulating, blood running, vital juices flowing and an electric field is laid on and potential set up, there the sluggish courses of nature will be accelerated and brought to normalcy.

This principle has been confirmed through a series of very simple but effective practical applications. The technique was evolved for plants by diseases; it was applied to animals by accident; it was taken over by humans for their own use by necessity, and so popular has it been all round that a vast volume of genuine and original research has grown up, thanks to the thousand and thousands of sufferers who have tried it with profit and broadcast it with success. Electroculture takes the same unitary and usual view of disease as does Macdonagh cited in the preamble but exploits it, expands it, and thereby universalises it by including Plants and Animals no less than Humans in its province. The application are:—

1. Electrified Sleep.
2. Electric Drink.
3. Electric Irradiation.
4. Electric Diet and
5. Electric Activation.

A few instances may explain the universality and efficacy of each modality.

1. *Electric Sleep.* It is well known that electric potential increase at the rate of 5 to 10 volts per yard as one goes up. Now if the patient or plant is insulated it will be getting this extra field or charge which otherwise would be running to earth and be benefiting itself in the process. A dying cyperus plant was insulated from the ground and connected with an aerial and within 2 days it came back to verdure. A sleepless patient's bed-posts are placed on insulators of glass, china, rubber, anything and he sleeps soundly in the night.

2. *Electric drink* Water is electrified by charging it with ions and is then given to Plants, Animals, Humans. It evokes powerful responses everywhere. Any growing part which is given this film of Electrified Water with its extra field begins to grow faster. There is not a single variety of plant, growth, seed, plant, bud, flower, fruit which has not answered promptly to the process of *Agaskarisation*. Animals and plants have been no less prompt in the response. This water is antiseptic, disinfectant, emollient, deodoriser and has a lot of new Electro-biological properties which nothing else can equal or approach. Animals and humans have gained prompt relief from troubles of vision and digestion.

3. *Electric Insolation.* The early morning sun is rich in Ultra-Violet rays. Plants and animals are exposed for an hour or half and derive considerable gain.

4. *Electric diet.* The feed of animals, the food of human is exposed to ultra-violet light and is powerfully vitaminised.

5. *Electric Activation.* This is Electro-Endocrinology. The glands are activated by high tension current and hormonal secretions accelerated.

Critics, cynics, sceptics—in fact all those who oppose because such is their sweet will—can be easily anticipated and silenced. Some will say : Let us go on multiplying our allopaths, our *hakims*, our *vaid*s and not loose cranks into our rural area. This is begging many questions but obviously allopaths, *hakims* and *vaid*s are not enough to go round and big tracts of the rural area are actually without relief. And even if such orthodox healers were available, funds to set them up and provide each with a clinic and a pharmacy would not be forthcoming. And if funds were made available and such orthodox healers installed in the rural area, there is no guarantee that the sufferers who have already found them unsuccessful would go to them. Others say : there is nothing in the New Science of Electroculture or what is new is not true and what is true is already being tried in the Radiology departments of hospitals. This again is a bundle of errors bound together by prejudice. Electroculture is a new, in fact, very new Science in the way it has been developed to apply to all biological specimens, plants, animals, humans. Not a word of its researches is in print in any country beyond what has been promptly published by the Electroculture Association in the shape of its bulletins. And hospital practice is poles apart from Electrocultural theory and practice. In a word, the hospital radiologist treats the sufferer for long periods as a live wire, he is given the activating energy which just runs to earth for 15 minutes, 30 minutes or so ; he might as well be treated for as many hours, without any appreciable difference for the sufferer is only conducting the energy to earth, instead of any other metal or non-metal contact to complete the circuit. The treatment is repeated for days and weeks and months. Electroculture has radically different technique : The sufferer

is insulated and treated as condenser, captor, collector, replenisher, receiver of energy and not as transmission cable run to earth. Further, he is treated for half to one minute. Finally 3 or 4 such treatments in conjunction with other modalities suffice to restore the failing parts to efficacy and normalcy. A word may be added as to the end in view : the orthodox healer promises a cure ; he may perform anything. The Electroculturist only views the sufferer as an Electrocultural apparatus which is put right and in working order in very little time—whether it goes wrong very soon again or continues to function normally depends very largely on the personal factor of the sufferer. The switchboard has been repaired ; the short-circuits removed ; the local circuits restored ; the numerous imbalances corrected ; and the human apparatus is again in working order or in better working order than before. And be it noted, this laudable consummation has been reached without introducing into the system foreign bodies, strong bodies,—in a word poisons, or doing it any violence whatsoever. And the cost is ludicrously low, in fact, negligible and insignificant.

Still others, doctrinaire in the way of thinking, if thinking it be, may cavil at the hotch-potch of plant, animal and human ailments in one witch's cauldron and superciliously sneer at the methodology. That is, as noted, their way of thinking or better feeling or best lack of both. Two points have to be made. Firstly, there is too much of comminution, fragmentation and splitting up with the hair-splitting which spoils the woods for the trees, and science loses ground where too many sciences criss-cross with perverse autonomous tracks. Secondly, the new synthesis now attempted is itself based on logic and fact ; it has been established that wherever there is cellular activity there is electrical energy and conversely wherever

there is electrical energy these is cellular activity. Consequently whatever the biological system—plant, animal, human—wherever the blood, sap, juice in circulation, if an electric field is set up, the processes of nature⁹ will go on with greater normality and balance. And as condition precedent: all imbalances will be corrected by this Electromature or Electroculture. This is not merely an academic theory or hazy hypothesis but the result of successful confirmatory tests on *laes* of plants, thousands of human and hundreds of animals. In fact the methodology and science of Electroculture has been established on plants, confirmed by animals and accepted for mass application by humans. The norms, modalities dosages, the whole gamut of treatment with variations to suit types and modifications to favour the individual have been fixed by unceasing experimentation, experience and research and the subject and object of research is the sufferer himself. He takes the test, he feels the reaction, he feels the improvement and one more point is added to the circular graph.

What, it may be asked, is the criterion? It is subjective satisfaction, not objective observation: or subjective satisfaction of the sufferer first; then objective observation of that satisfaction by other indications by the observer. This avoids the freaks and fallacies of a conflict of the two which finds its most ludicrous climax and exposure in the *mort gueris* pronouncements of pompous doctors of physic so dear to Moliere. Cured or died cured such is their *post mortem* note given to their own perfect satisfaction when the obstreperous patient insists on recording his own perfect dissatisfaction with all the rigour of which he is capable, *rigor mortis* unto death.

Surveying all sentient creation in one glance, animals

express this subjective satisfaction even better than humans, and the bigger the animal the deeper the satisfaction and compoundingly deeper the amazement of the critical observer—amazement in the true sense of that term and not as a debased coin of the press headline and hoarding. Who could imagine that the gigantic mass of suffering which is an elephant with eyes stopped by conjunctival flow, and smarting under the stabs of alkalis and what not would take the high tension treatment given straight into its eye and register its subjective satisfaction by lying quiet as a stone with its trunk curled into the tiniest coil he can. And yet such is the nervous tension and nervous breakdown of that giant he will trumpet as demented if the exhaust of a motor car breaks in upon his inner peace. Or again, who would imagine that that long and patient sufferer, the camel, irritated to distraction by a persistent fly and kicking out right and left would take kindly to activation by the electrode of his thyrod gland and almost purr like a kitten? Or, again, the unyielding unfeeling buffalo racked with pain would hang his mastodontic head with grateful relief when tickled at the thyroid? On the other hand, the smaller animals were vicious to a degree. Obstreperous indeed was the spaniel bitch under the magic wand which cured it of eye trouble. And the fighting cock which lost the use of one eye kept unopened for 20 days regained vision in 15 seconds and the first use he put it to was to peck at the healing electrode !

To return to the question : What is the criterion ? Subjective satisfaction has been the reply. That is true for all creation. But so far as humans are concerned that is not enough. For subjective satisfaction is nothing passive but an active incentive to further behaviour. This is shown by sufferer after sufferer *ad lib* and indeed *ad lib*. He comes, gets treated, derives relief, mentions it to his village

folk and they come to the mobile Electro-clinic in tens and hundreds. Still more dumbly eloquent is the behaviour of women. They come so strange and shy. All coils of wraps and gauze and colours with humorous eyes overtopping the veil and timid feet under-peeping the *sari* hem. Demurely they take the treatment in the shelter of the Electroclinician's *chouldari* and surely they send back more and more from their native village and others.

The Electro-clinic has come up to expectations in the fullest measure and over-measure. It has fulfilled the conditions precedent laid down in the preliminary chapter. How ?

The Electro-clinic, as a new centre of relief, has been a boon and a blessing to the rural area. In 43 days it has individually and separately ministered to the needs of of nearly 8000 seekers after relief, and average of 150 to 200 a day has been touched and exceeded. The Electro-clinic has been constantly on the move according to a programme with not more than two halts at one and the same place and has therefore managed to cover an appreciable slice of the Rural Area. Sufferers have come in their tens and hundreds, they have gone back to their homes, spread the good news and other have come in still larger numbers. They come from the village of halt itself no less than from other near-by villages within a radius of 12 miles or more. They have come on foot, by cart, on pony, on camel, anyhow. Often, they have sought relief for their animals as much as from themselves. The good news has spread like wildfire, each sufferer relieved, animal no less and indeed more than human, has become a firebrand and the Electroclinician has become a minor *messiah* much to his embarrassment and indeed dismay.

What now is the *Survey of Suffering* ? The full picture can be caught in the fewest of pen-

strokes and considered according to age groups, male and female and both, 0-10, 10-20, 20-30, 30-40, 40 or 50 50-60, 60-70, 70-80, 80-90. As, to suffering, this has put in four groups: pain, blood, eye and fever. That has appeared the simplest way, and rough and ready and practical. And where the subjective satisfaction of the sufferer and his personal sense of relief are the main objectives, obviously the ailment is grouped as he describes it, no matter if he be the carrier of numerous other disease and germs. But for greater clarity each head may also be analysed thus :

Pain: Includes lumbago, sciatica, gout, arthritis, rheumatism, sprain, strain, tension, ache, or whatever the origin—injury, fall, kick, urea, boil, ulcer, gum-boil pyorrhoea, etc. and whatever the duration from days and weeks and months to years. It includes all complaints of articulation from sprain to paralysis and lock-jaw.

Blood: includes all cases of blood affection, boils, sores, ulcer, itch, acue, peronitis etc.

Eye: includes all affections of the eye, granulation, lack of vision, inflammation, sores etc etc.

Fever: includes fever of all kinds malarial, asthmatic, tubercular, diabetic, listian, quartan etc.

A SURVEY OF SUFFERING.

Age- Group.	Fever.	Pain.	Blood.	Eyes.	Total.
0-10	466 (70)	132 (25)	144 (20)	222 (51)	964 (169)
10-20	348 (114)	127 (15)	96 (14)	102 (26)	673 (169)
20-30	516 (103)	324 (31)	214 (28)	312 (51)	1366 (213)
30-40	744 (120)	606 (62)	159 (34)	270 (54)	1779 (270)
40-50	540 (58)	587 (51)	86 (10)	372 (104)	1585 (223)
50-60	174 (15)	216 (11)	43 (8)	192 (32)	625 (66)
60-70	90 (24)	96 (11)	61 (2)	114 (11)	361 (48)
70-80	14 (11)	119 (9)	0 (0)	48 (2)	181 (22)
80-90	0 (0)	3 (0)	0 (0)	5 (2)	8 (2)
TOTAL	2892 (515)	2276 (215)	803 (116)	1687 (336)	7542 (1182)

The figures speak for themselves; only their language must be understood and their message interpreted. Taken in the bulk and viewed against population it may roughly be generalised that *definitely incurable or difficultly curable diseases decimates the Rural Population*. Truly 10% of the human beings are stricken and linger and vegetate. If those who get well are included, then sufferers must number 20% of the inhabitants. This is a very high figure: Viewed demographically every fifth person in the region is not only doing his job and justifying his existence but adding to the useless labour of his fellow worker and entailing continuous running loss to his country. He is patiently going down in the struggle for existence and patiently dragging others down with him. To visualise how a single sufferer saps the vitals of village life, watch this sufferer, who has come a considerable distance—10 miles—in a capacious farmer's cart drawn by a sturdy pair of bullocks and conducted by a buxom matron, with over-bangled arms, fully rounded under the meticulous care with which she goes through the chores of the day. Today those arms are missing the chores of the day: The *gobar* is lying unattended. She confides to a neighbouring woman waiting her turn in the clinic that the children are getting fidgety and the baby wants milking. The cart should be bringing in the harvest; the bullocks should be thrashing it on the floor; the landlord's agent is clamouring for his rent—but all is going to rack and ruin, ever since Lord and Master has got this stranglehold. A still more significant human document: A tailor-master in the village has wife, mother and daughter down with eye trouble, partial blindness in the old folks and total loss of vision in the bride of 16 who has just got atrophy of the optic nerve and needs escort and attendance at every step and cheering up every minute. The tailor-master is living

on his saving and custom has taken wings and departed long ago. Fortunately the Electroculture Clinic, itself on the move, does not call up the sufferer more than three times, but the total loss to village economy escapes imagination and calculation, when it is recalled that these sufferers have already gone from pillar to post and scoured the countryside, far and near, in search of relief that is denied.

The rural area is decimated by disease, which is uncured but not necessary incurable although the sufferer and his circle for the moment declare so. Hold on to the word decimated : decimated by normal disease ; other lands are decimated by epidemics against which there is no relief possible or feasible or available. But the rural area is decimated by terrors which other lands hold light. And when an epidemic strikes the rural area, then folks die like flies. The disproportion and aggravation in contrast with other lands becomes disproportionately and aggravatedly intense. Death stalks the land, disease takes its toll and blind fatalism accepts all without murmur or demur.

This normal decimation of the Rural Area has another aspect. It is a running sore in the National Economy. The village is the reservoir of man-power and when that is stricken or polluted or weakened, the Nation, no less than the State, suffers. This should soak and grow into the minds of those who blandly aver : *no funds, no relief.*

Scrutinise the census of suffering, the heaviest toll is levied by *fevers*. Roughly three out of eight sufferers, and their numbers run into thousands, are incapacitated or debilitated by fevers. Contributory causes lie to hand:—lack of care, lack of proper diet, lack of adequate clothing—culminating in lack of life itself. The fevers may be of many familiar types : asthmatic in old folks puerperal

in young mothers ; muscular in old and young ; influenzal in outdoor workers ; malarial in everyone. Particularly instructive is the incidence by age and sex. Consider age groups first : The heaviest incidence is between 30—40 years. This runs counter to the theory of resistivity and maturity, for obviously the healthy, mature individual in that period should offer most resistance but actually offers least. Age groups 20 to 30 and 40 to 50 suffer less in the similar proportion of 7 to 5 The age groups 50 to 60 and 10 to 20 suffer very differently, the former shows disposition of 7 to 17, the latter 7 to 34 The remaining 60 to 70 and 0-10 shows the same disposition 7 to 7 and 7 to 2, 2-4.

With females the incidence from age group to age group is curiously inverted at times and places due to the pestilential *parda*, the back place to which they are relegated in society and the resulting apathy and neglect from which they suffer. Naturally the female has more nature resistivity than the male : thus while the male has high incidences in the 0-10 groups higher than in 10-20 group, the female's incidence in the latter group is double that in the former. In other words, due to unhygienic early marriage and child bearing, physical and 'psychic changes, and the tyranny of the in-laws, double the number of females suffer under the tyranny of social habit than they would suffer in the course of nature. The female fares relatively better than the male in the age group 20-30. While the incidence of the male increases from 3-48 to 5-16 that of the female decreases from 1. 14 to 1. 03 ; in other words, in the females naturally higher and better resistivity has begun to reassert itself, the weaklings having been killed off, the rest survive the struggle, for existence. In the next age-group 30-40 the female fares still better than the males. The male's incidence reaches a maximum and is double that in the 10-20 group ; the

female's continues at the same low level. The same recuperation causes, after weeding, operate. In the 40-50 group the male's incidence continues high as ever, if lower than the maximum, but the females has dropped to one-half. The female is going to resist fevers much better than the male in his group. In the remaining groups of advancing age the male fares better than the female; his incidence drops to one-seventh while that of the female to one-fifth, the reason being this, that while the aged male sits and smokes and has an easy time, the aged female has still the same old household chores with the added labour of nursing more children, cooking more food, caking more dung and making more exertions. This disparity is still more marked in the last age-group (70-80) where the male's incidence drops to 1/6th of the preceeding but the females only to 1/2.

Pain comes next in the category of mischief and causes untold misery. Apart from the inner damage it sours the temper, disrupts the peace, disorganises the household and pain from sprain and strain to rheumatism and paralysis takes heavy toll and touches an incidence of nearly one-third of the total suffering in the Rural Area. It is not necessary to analyse pain; the complete patient-wise register gives all the details; it is more instructive to examine the lesson of age-groups and sexes. Here the sexes show fair parallelism and are not at sixes and sevens as in the previous category, *Fevers*. In the *first* age-group (0-10) both have a high incidence; both have the same infants' troubles, teething, diarrhoea, etc. In the *second* age group (10-20) there is a drop in both, less in males than in females, the former being more exposed and the latter more protected. In the *third* age-group (20-30) the comparative disparity is still more striking while the female's incidence has doubled, that of the male has nearly trebled. The reason is obvious: work in field and farm, state

and byre; plucking flowers (*mahua*, not roses!) picking fruit, felling trees, sawing timber, exposes the male to much more danger and enhances the incidences. In the *fourth* age-group (30-40) the incidence of both has doubled, gout, lumbago, sciatica, rheumatism, arthritis etc have begun to victimise both impartially, more exactly the female's progressive curve has been pushed up, seeing that willy-nilly, well or ill, she has to attend to the household chores, while the male neglects his pain-bringing pre-occupations. In the *fifth* age-group (40-50) the incidence of both is still less. In the *sixth* age-group (50-60) the male's incidence has fallen to one-third, while that of the female has fallen to one-fifth. In the *seventh* age-group the male's incidence is halved; the female's same as before. In the *eighth* age-group, the former is a little more and the latter a little less and practically speaking the same as before. So synthesising, between 50 and 80 the male is having an easier time; the female as busy as ever..

Eye trouble is the third of the series. It is the third highest in incidence but the heaviest in affliction. If the sufferer had a choice of suffering, he would certainly beg and beseech his Maker thus : "*Strike what thou wilt but spare my eyes, Lord*". Actually the eyes are the most protected organs of the human and yet despite such protection, the total volume of suffering eyes is two-thirds that of the greatest source of suffering fevers. Here again the details are available in the case-wise register; at present a survey by ages and sexes is attempted. In the first age-group (0-10) both sexes fare badly and suffer heavily. Genuine hygiene of the eyes is unknown; *Kajal* and *Surma*, which a false search for beauty and a foolish sense of vanity apply to the eyes of the unhappy, unprotesting child do inconceivable harm. The strongest proof is this that in the second age-group (10-20) when the young person is mere

determined in his defence, the incidence of both sexes drops to one half. In the third age-group (20-30) incidence goes up with a bound, trebled for males, doubled for females. It is in this group that the eyes are most and longest exposed to smoke, dust, dirt, infection and the like in work and play and leisure. In the fourth age-group (30-40) incidence of both sexes continues high as before. In the fifth age-group (40-50) the rise is accentuated, male's going up 40% and females 100%, Neglect of the eyes tells its tale ; eye-disease takes its toll and the beady eyes are not even longer good enough for telling beads for faith cure. In the fifth age-group (50-60) male's incidence is halved ; female's one-third. The reason is that with advancing age, both sexes are compelled to spare their eyes and avoid irritation to which they are exposed in the course of business. In the sixth age-group (60-70) the drop continues, male's to one-half and females to one-third. In the seventh age-group there goes further male dropping to one-half and female to one-sixth. This drop in the higher age groups does not by any means imply greater immunity ; there is also greatest mortality to be reckoned with.

The last category of the survey is furnished by trouble in the blood which represents nearly one-eighth of the total volume of suffering: The first age-group 0-10, has a high incidence of both sexes. The second age-group 10-20 has a drop of one-third, which is not surprising as with growing boys and girls that is a very healthy age-group. In the third age-group the incidence for males and females is doubled. Thereafter there is a progressive decline in the second, fourth, fifth and sixth age-groups.

This survey of suffering with distribution of disease is not enough. More pressing is the question what has actually been done to combat both ? Much has been attempted, at first tentatively than resolutely, finally with

complete assurance and guarantee of success, and results have exceeded all expectations. And the final judgment is a triumph of Electroculture, Electronature—call it what you will—

The triumph of Electroculture. Such is the story of the 10,000 who should rank high in the history of human endeavour. Chastened by past disappointments robbed of all hope, bereft of all guidance, denied of all relief and mortified by interminable tale of suffering, this hapless 10,000 to a man clung to Electroculture as a drowning man clutches at a straw and Electroculture has proved a constant friend in need. It has relieved them in the course of hours or a day or two at the outside, restored to defeated souls that grieve the birth-right of every human, hope.

And on his part the Electroculturist is much beholden to them, each and all. They have helped to establish new norms, new approaches, new modalities in the mitigation of mass-suffering. These may be briefly established so:—

Technique for eye treatment.

(4) Wash with Electrified water 4 times a day and *agaskarise* the eyes.

2. Activate the glands.

3. Spark the eyes.

Not a single eye-case but has given definite response within 24 hours.

Technique for trouble in stomach, bowels, liver, kidneys, bladder, spleen and genito-urinary apparatus.

1. Copious internal use of Electrified Water and *Agaskarisation* morning and evening and after meals.

2. Ultra-violet rayed-diet, irradiated by exposure in an earthenware dish to the early sun for an hour.

3. Sparking—glandular and local.

Technique for disorder in the respiratory organs, lungs, heart, asthma.

1. Electrified sleep on insulators.
2. Electrified insolation.
3. Electrified Water and *agaskarisation*, moderate and discreet in morning and evening.
4. Electric activation of the glands and foci of trouble.

Technique for fever.

1. Administration of fever mixture prepared not with so-called aqua pura but with Electrified Water.
2. Electrified Water morning and evening.
3. Very mild glandular activation,
4. Electrified sleep.

Technique for paralysis, cripples, brain defectives.

- (1) Electrified Water
- (2) Glandular Activation.
- (3) Harmonic Activation.
- (4) Electrified Sleep.

Technique for skin disease.

1. Electrified Water copious internal use.
2. Electrified Water copious external washing.

Technique for local troubles (e.g. Ear disease)

1. Electrified Water and *agaskarisation*.
2. Electrified wash.
3. Local Activation.

Technique for trouble in head and brain.

1. Electrified water.
2. Harmonic activation.
3. Glandular activation.

Special cases. It is of course impossible within the limits of his work to tell the story of every one of the

10,000, but a few outstanding, transitional cases may serve to throw spotlights.

i. The first transitional case. The first spring from plants to humans was forced by necessity. At a big demonstration of electrocultured produce and the relative technique during a *Ramlila* Fair and Festival attended by thousands an overwrought father brought his 3 year old child stiff as a ramrod held high in the air right up to the *dais*, cutting clean through the proceedings : and demanded relief for the afflicted one. What is wrong ? asked the president. Paralysis ! was the agonised reply. "Better take him to the hospital" suggested the President. "Been there, no relief" exclaimed the distracted father. The President expatiated on the blessings of Ultraviolet radiation for curing children and in fact all deficiency diseases but naturally hesitated to take the perilous leap from plants to humans. He was obviously loth to apply the lessons taught by plants to humans and passed on to the order of the day but the tragic interlude had thrown a wet blanket. The public rightly or wrongly were more impressed by the challenge which had been rejected than by the series and columns of electrocultured produce which testified to the efficacy of Electroculture. To cut a long tale short the President sent for the father and mother and child ; carried out the full course of treatment improvised for the occasion, electrified sleep, electrified drink, ultraviolet radiation, high tension activation, glandular shocks and electrified diet. Within one hour of treatment the crippled leg could stir and in three days the child with its happy parents was returned to his house. When recently he had the stiffness of *rigor mortis* he now could turn round to see what was going on behind him, move along freely to pick up a coin or toy and was as good as cured. This news spread like wild-fire through-

out the Rural Area and was chiefly responsible for the stand of the ten thousand, the stand on Electroculture.

ii. A Boy, 16, suffering from incurable Bright's disease was given one drink of Electrified Water. The result was that within half an hour the boy had two big gray loose motions and felt very much lighter and better. His medical officer reported a distinct improvement. This is an undoubted triumph for Electroculture which has quietly and simply aided nature to rebel and eject the poisons which were lying on the system, unable to help itself unaided, like an incubus. Of course alkaloids, minerals chemicals and the like, have been tried with conspicuous insuccess and they all suffer from this reproach: to add poisons to poisons is not the way to eliminate poison; and generally speaking, to add confusion to confusion is not the way to remove confusion. But Electrified Water which in itself is no poison at all and on electrocultural principles rights the imbalances of the stomach, liver, kidneys, intestines and the genito-urinary apparatus has thrown out the poisons in whole or part, which were responsible for the local dis-equilibrium,

iii. A Thakurani, 35, of Farrukhabad had been suffering for the last six years from mental disorder which had gone on steadily worsening after the birth and death of a child five years ago. The two children previously born were quite healthy. The husband and family were in despair at her continued distress which ranged from moaning to loud lamentations. She would refuse food and her whole existence was in disorder. When she was brought to the Electroclinic in an ekka, the general impression was that miscreants had kidnapped a woman and were running away with her. With great difficulty she was brought and the modalities of treatment ranging from Electrified Sleep, Electrified Food, Electrified

Drink, Electrified Wash, Electrified Insolation to Activation explained to the husband and the treatment began. Within 24 hours her lamentation had dropped to a moan and then to a whisper, Her sleep was sound, appetite normal, and she was eating with relish. The first activation was received with revolt, the second with pleasure and the third was not given. The improvement within 30 hours was remarkable. Nothing can compare with Electro-culture for correcting the mental and therewith physical imbalance of a violently perturbed patient. Whatever the cause, and in this instance, probably the husband was responsible for the unwanted and imprudent child-birth. when the the mind was getting affected, the results of Electroculture were successful.

iv. A Brahman teacher, 60, Bhogaon, who was badly suffering from very chronic trachoma is much relieved. Now his eyelids are not so heavy. The gritty sensation in his eyes is much less.

v. The daughter of a Muslim police officer in a rural police station who was suffering from disseminated Schlerosis has also been relieved by the use of Electrified water. She now does not stammer as before and can drink a glass of water with her own hand.

vi. Medical officer-in-charge of a rural dispensary was suffering from Pyorrhoea for a long time. He used Electrified water for about 10 days. He was altogether cured. His gums do not bleed and breath is also not so foul and at the same time his dyspepsia is much relieved.

vii. A Kayasth girl of 18 had low fever, loose stools and pain round the navel for the last three months, which could not be shaken off under the allopathy treatment. After use of electrified water for a fortnight, once a day, temperature has been normal and she passes solid healthy stools generally. She still has occasional attacks of pain round

the navel and loose stools when indiscreet about diet.

viii. A Muslim town dweller, 45, of Mainpuri had pain on the left hand and in the spinal cord. Treatment given as follows:— 'Electrified Water, Sun-shine, and 30 second spark. Within four days he was cured.

These electrocultural developments should not mislead. The intention is not to provide a cure for any disease. The word, *cure* is not included in the Electroculturist's vocabulary. On the other hand, what has been attempted and uniformly achieved is the administration of relief, relief to the sufferer in the Rural Area, where other agencies for relief are not available or have failed to satisfy. It may be questioned why every type of suffering from A to Z has been included, even chronic lunacy. The answer is as explained in the beginning, that all diseases are synthetic, homogeneous in partial accordance with the concepts of Macdonagh. The biological system has, electroculturally considered, gone out of order. The Electroculturist restores the balance. He resets the switchboard, renovates the cut-outs, short circuits etc. He gets the nature or the *electronature* of the sufferer to work again at concert pitch. His system is electrovitalism. He vitalises or revitalises electroculturally the parts that were obstructive, defective or worse. It is up to the sufferer to keep the machinery in perfect running order. If he is careful, he will do so long: if careless, it will go out of order again. There is no question of cure or how long the cure will last—a question often put after improvement. The reply invariable has been: It all depends on yourself. And generally speaking, in the Rural Area, the suffering has been so severe and long standing that the relief is welcomed as manna from heaven.

30. Meals And Menu

Disease has been a terror; it is an accident; it should

be an incident ; and finally a phenomenon, an anachronism. Given good fare, such a consummation which is devoutly to be wished, will be reached, for with proper nourishment the body will resist better and disease will be kept at bay.

Given proper fare there will be perfect welfare, but how is that stipulation to be fulfilled ? Actually it is not. There are two anomalies in the way.

The anomaly of food The first anomaly is that there is scarcity in abundance, if not starvation in the midst of plenty. For, it is anomalous that the villager who is producing every eatable, should have nothing left for his own larder. And the anomaly becomes a scandal when he cannot afford to put into his own mouth, even just a little out of the lot which he passes on to others. Economists will bandy phrases of maladjustments in production and distribution but the villager himself sees clear and sees whole, and gives the whole clear answer. He says he must sell off every grain to raise the money to pay off his rent or out he goes, evicted by the heavy hand of the law. If, now, he is living on the brink, then he will be down in the depths. The remedy is clear, so he says : Let me pay my rent in kind ; deliver loads of good wholesome grain, in lieu of rolls of musty paper. The Zamindar will not fall in ; what should I do with the wagonload which I cannot handle or store ? I want hard ringing coin for paying my revenue with but I do not mind if the state will accept the wagon loads in payment of revenue. The State in, its turn turns round and exclaims : I cannot convert my treasury into a granary. Moreover gold is legal tender of the land. I want tender. Every other material as money has been a failure and farce.

This triangular tangle or wrangle will not mitigate in the course of foreseeable time. But there is no reason whatever, purely as a first elementary measure of self

preservation and foresight, why the villager should not fill his larder with fruit, before the surplus is thrown on the market. The very rumour of such curtailment may send up prices. And in any case it is bad policy for the villager to stint and starve for the sake of a doubtful grain.

The second anomaly is still more distracting. In so-called disproof of the popular charge that the villager is underfed, some wisacres have urged that his faeces have been found on examination to contain a lot of food which he is discarding as superfluous to his requirements, so actually he is overfed and not underfed at all. There is a wilderness of falacies in this. The full truth is that through lack of wholesome, varied food the villager is so debilitated, that he cannot assimilate his little food he does get to eat. The fact that he is discarding a good bit of the little he eats only shows debility of the digestion apparatus which cannot assimilate, and no over-nourishment at all. The following instance is an eye-opener: When a patient suffering from the evils of avitaminised diet is given vitamin this does not go to invagorate him but is discarded with the faeces in the bulk. To examine the fallacies further, there is no machinery, human or man-made, which works with cent per cent efficiency and the digestive tract is no exception to the rule. Wastage, due to lack of assimilation entailed by lack of assimilating power, there is there or bound to be; the problem is, how to reduce it to a minimum and then to keep it there. There can be nothing so pompous as nutritional science without nutrition and there can be no nutrition without nutrient matter going down the gullet.

This shows the *bankruptcy of food*. The villager has little food and that little is lacking in nourishment for him. The reason is that there is a monotony in the dietary. The same food without a break and without a change begins to pall. Side by side with the disease survey a food

survey was also taken in a canter. Some 70% take *bajra*; 30% wheat; 10% milk; 1% *halwa*. Milk, which is the great supporter of life in itself and in its numerous modifications and derivatives, is a speciality or monopoly of the Rural Area, but its use there is practically unknown. A very vicious circle completes itself. The land is getting impoverished, the crops are poorer because they do not get good manure; the cattle do not eject good dung but watery stools, because they do not get fodder; fodder is getting poorer in quality, because the land is getting exhausted; the land is getting exhausted because it cannot be deep-ploughed by the debile bullocks; milk is poor in quality and poor in quantity. Formerly, the drinking *pinos* ran with milk, now they do not even run with water.

The monotony of the menu can be cured by the diversity of fruit; more luminous illustration of the first anomaly there cannot be than this, that the Rural Area which produces the vast bulk of the fruit in the country should not consume all or in sufficient quantities. It is a truism that the fruits in their wide variety contain all the vitamins, the whole alphabet from A to Z. How to increase the yield of fruit; how to get more fruit to grow where some grew before; how to get some fruit to grow where none grew before; how to utilise running home water which adds to insanitation to grow plantain, papaya, guava, have been the special care of the E. F. G. A. which has in the course of a hundred leaflets and a dozen shows done much pioneering work. The next step was how to utilise the fruit and that has been the special task of the Fruit Preservation Section of the Exhibition which has collected the best recipes for *achar*, *chutneys*, *murabbas*, *sharbats* and the like. All the problem of the *Kisan* have been solved. He has only to help himself and then he

will realise that Heaven is also helping him—helping him with good food, good digestion, good health.

Before going into the *composition of meals* a sober view has to be taken of food values and food indices. Chemical components, proteins, carbohydrates are not enough, in fact they are nothing before the vital question of assimilating power. So, every care has to be taken to cultivate and improve that power, and the means is good fruit taken in suitable quantities.

Before meals come drinks. What does the villager drink? Water necessarily, milk rarely, liquor surreptitiously. With the above precaution and developments he should drink juices and fruit syrups. How to vitaminise the menu is a problem which besets in a different way—both East and West. Why both, where the one has a rich diversity, while the other a sickening monotony in fare is itself a puzzle which is easily solved when one realises that digestion in the West is undermined by overstuffing with flesh-foods while that in the East is undermined by lack of sustenance and variety. The western problem is easily solved by partial replacement of meals with fruits and vegetables. This has gone very far in America, and Europe is following America's fashion. In India, too, the same and similar, fruit; and vegetables will also bring salvation and rationalise the menu. How to combine the different constituents? Grains and pulses must bulk largely as staples, but variety demands that pulses should occasionally be dropped or substituted with vegetables. The Perisian or Iranian, as he now names himself, had a Persian lampoon on the Indian, in which he was charged with eating grain with grain. Would that that lampoon had gone home and the taunt taken to heart, for then the overstuffing with cereals would have saved the Indian from diabetes. *Curds and Cakes and Junkels* import further variety into the menu. The name of

milk products in India is legion; this is only to be expected from a vegetarian country *Dahi, Mukhan, Khoa, Rabri, Khurchan, Chamcham, Matha, Ghi* are a few of the numerous convertibles with milk as main ingredient. There is no reason why the villager should not be able to afford them. His cow yields the milk; the wife knows the recipe; they can easily put two and two together. But they do not. It may be explained that he gets more money by sale of this. But this is not correct. So many substitutes of *Ghi* are now dumped on the market and sold with cunning admixtures as the real product that the whole gambling of the genuine product may be reduced to one half unnoticed. And if that is done, the villager will easily enrich his menu *pro tanto*, This is all the more desirable as it is suffering from deficiency of fats.

Fats and oils are indispensable. No milk; no fats: oils are available and taken in increasing quantities but if anything it is fats which should be stinted and starved and dumped on the market home and foreign. Little is the nutrient value, but very large individual, chemical and technological—very large. In fact, vegetable oils, and even more vital to cultivation and its machinery are the mineral oils. The reason is clear. The latter have corrosive residues the former brush up, castor oil is a striking instance. Aeration without castor oil is unthinkable. This is all to the good. The villager should concentrate on milk fats and grow oil for money.

Sugar and salts are further ingredients, little in size but big in importance and results. The villager has excellent choice of sugar, cane-sugar, date-sugar, beet-sugar and in places also grape-sugar. With the incubus of the market weighing and preying on his mind, he partakes of none according to any policy, system, plan, taste or menu. All the sugar he gets is the cavating of parched-in

field grain which often the young ones with a sweet tooth eat than he. No sweets as such enter into his daily menu. It should be the first step to Rural Uplift to open his eyes to one deficiency. All the more so, as he needs recuperations and restorations, and tobacco and liquor serve poorly as either.

As to salts, the position is still more precarious. It is a mistake to imagine that merely common salt is intended or needed. In fact that is the least essential element in the salt complex. There are even so many salts—calcium salts iron salts, potassium salts etc—which are vital to the human body and brains which only a vitaminised diet can give. Without exaggeration there is hardly a mineral or salt which does not occur in man. Even radiocative matter is present. So the best way is to eat as many vegetables and fruits as they are the best salt carriers.

Salines. *Churans* are salts or medicinal salts presented and prepared by the *Vaid* and *Hakim* and largely in favour with the practitioner and the resident in the Rural Area. Usually procured as a pill and absorbed as power—absorbed it is, for the relish with which it is sprinkled on the tongue which is put to its full length and kept so till the salt melts into the saliva. This saliva is a mixture of aromatic spices common and others salts and works as a powerful faith cure in persuading the subject that he can forget the morning after when he has dined and wined of course at the festive spread of a friend—not wisely but too well ! Some may say that the saline represents the high water mark of sophisticates.

Nothing of this kind. Himalayan *shikaris* are aware that the finest big and medium game is obtainable at the so-called salt-lakes where wild animals crowd in to have a lick at the deposits and even domestic animals, such as cows lick each other more for the salt on the other's coat

than the litivation of their own tongue. But the villager takes to *churan* not to stint the primitive craving for salt but to ease a guilty conscience.

Fruit or pan The Western's fancy may 'boggle at this quaint choice between fruit or *pan*, but here is a conflict of tastes if not a clash of culture. In the West true complement to a good meal is the apple, the finish to the feast is the fruit ; so much so that while Nordic countries have their puddings, the Latin lands have their fruit baskets as the last taste of sweet. Here in India especially Rural India which carries an extra hard crust of conservatism, the grand finale of feast is the ubiquitous *pan*—a betel leaf rolled into a lozenge and filled within a mess of limewash, catechu, betel-nut. The finer specimens have also wet tobacco rolled with molasses. The finest specimens carry cocaine—this is a costly speciality for the townsman. The rolling of the betel leaf into a diamond nugget—in shape not colour—is an art, comparable with flower arrangement in Japan. The rolling of a cigarette is mere child's play. The *pan* cone is prized for properties which are precious at first glimpse but poisonous at the last. For, patently, the *pan* provides something astringent to chew ; it promotes salivation and the digestion and lends the mouth, tongue and lips a lustre which puts in the shade the finest vermeil tint of the lipstick which only dyes the outer fringe of the lips and causes the victim to keep the mouth prized apart and the lips needlessly turned up and down. The victim of the *pan* suffers very much, if less obviously. The teeth are eaten and eroded to stumps. Further they are blackened. Finally, they are rotted and then the poison is spread to the bowels through pyorrhoea.

Distinctly, the *pan* is a menace. Dwell a little longer on the slippery weed and the unsavoury mess it prepares,

causing dry-rot in the teeth, red-rot in the throat, brown-rot in the bowels. It recalls tea but goes beyond it in its uses, and indeed misuse, not to say abuse. If tea is a *slow poison*, *pan* is a *sure* one. Tea is partaken 3 or 4 times a day, if the quantity at a time is apt to double or treble itself but *pan* is partaken at all times, before meals, after meals, at visits, at partings, on rising, sleeping, every time. Is there a formal party? Out comes the *pan* tray! And the ceremony of *pan-supari*, when princes and potentates regale each other, and the representative of the paramount power, has come down and hardened with centuries ever since Broughton, munched the odious goldfaced weed at the Moghul Court. True the afternoon Garden party and At Home ceremonial functions have caught on; but the *pan-supari* persists. If anything, it has come to symbolise, for reasons which no logic can see, it is true oriental hospitality. Does a man take a mighty vow? Down goes a *pan* into his mouth. Will a bride signify her willingness to accept a groom? She accepts the *pan* proffered by him. Will a knight redress a maiden's wrong? He swears to do it with a *pan* in his cheeks. Has any health to be drunk, or toast proposed, any hospitality to be proffered, why offer *pan* and all is said and all is done. Coat it with a silverfoil or gold leaf, perfume it with choice *attar*, stuff it with flakes and dust of dried fruits, season it with spices, sharpen it with tobacco powder, conjure with it as you will—but keep to *pan*. *Pan*, the All-Powerful, Sempiternal, (& Pestilential)!

How can fruit displace such a hoary sinner as the *pan* in the Rural Area? By producing more fruit, better fruit, rich fruit, newer fruit and seeing that it is consumed in the village. In one word with the fruit-eating habit.

Sweets and Spices. An outsider does not realise the rich variety of sugar products in the Indian village, although it does not follow that the villager has access to

them, for more often than not, he is an alien in his native health or a skeleton at the feast. Those delicacies are sugarcane, sugarcane juice, *gur*, jaggery, *shira*, *rab*, molasses, *batasha*, *misri*, *quza*, *gatta*, *khilona*, and finally or initially, sugar, white, brown, cream. Re-grouped, these are edible forms of sugar—liquid and solid the sugar ranging from clean cane juice to treacle or *rab*; the solid being amorphous and crystalline. These sugars or sweets are eaten alone, plain or with grain, and good old custom has once for all ordained in what permutation and combination they shall be served and enjoyed. Thus prop-corn takes one kind of sweet; puffed rice another; fried grain third and so on. Then there are days of feast and fast, festival and ceremonial, each with its appropriate service of sugared food-stuffs. So for example *Diwali* or the festival of light, which corresponds some what to Christmas, when gifts are exchanged and the conventional gift is a measure of puffed rice with sugarwork, in the shape of toys. But the most popular sugar form is *gur*, good brown, cheeselike which fortunately for village economy is approached by the *Javanese* grey variety, More fortunately still the musk perfume of the former makes it particularly welcome, while the grey acrid, astringent after-taste of the latter—an incident of manufacturing process—operates in the reverse direction. The uses to which *gur* is put is legion: plain, with corn, with grain, with bread, with milk, with confectionary, with bakery, and the like. Even the sophisticated townsman has learnt to appreciate how the aroma of *gur* blends with the smell of tea and of course coffee, is all the better for *gur*, which is better than brown sugar, so prized in the West in sweetening. And *gur* or sugar blends very well with spices, the variety of spiced sugar work being inexhaustible.

The spices are ginger, peppers, (red, black, brown) chillies black, red, green, slender, puffed, capsicum etc; nutmegs, cloves, cardamoms, mustard, coriandar, garlic, onion, saffron; cocoanut, sliced pistachio, flaked almond, crushed walnut, parched peanut, and so forth.

To celebrate the birth of a cherished child, instead of dragees a special preparation of kinds of nuts with spices is a solid sheeting of sugar called *panjiri*. This five-fold brick, something like the Sicilian Cassetta is distributed by the household to all and sundry. But spices are taken as a flavouring to food. The Westerner is unhappily only familiar with an evil-looking powder called curry powder, which really defames the Indian curry wherever it goes. Actually curry powder as such is a misnomer and a libel. Curry is a matter of *fines herbes* with choice seasoning of spice all freshly collected from the field or hawker and ground with pestle in mortar or on the *sil* with *batta* and transferred to the cooking pot while the dish is cooking. Such a seasoning also serves as chutney which in the essentially Indian menu has to be made daily for the occasion.

Spices and sweets are all stocked in the village by the special *ad hoc* grocer or *parchuni* but the tragedy is that he is not so popular as he should be. Why so?

The *tenant* will say : I am starving in the midst of plenty. I have no money and can buy neither sweets nor spices, for I must stint and starve to pay off my rent. The *landlord* will say : I collect rents with a heavy hand, because I have to pay my revenue to the state, I cannot afford to forego a pice. The *state* will say : I need every pice I collect and many many more, otherwise the administration which primarily benefits both tenant and landlord cannot be carried on. All complete the vicious circle and the triangular tussle will go on for time ever-

lasting. But the issue so far as the villager is concerned is very simple and need not be magnified or confused. He says he cannot afford to buy sweets and spices so vital to his own and his family's welfare. Is this correct? Look into his hands; observe the palm. He is what is known as an horny-handed son of toil and he blatantly belies that honest nomenclature at every step. The palm is heavy, thick, reeking, caked brown. That is not the honest sweat of his brow. It is the plaster of nicotine piled by layer on layer of tobacco which he smokes from the *chilam* or pipe or smoke-bowl gripped in the hollow of the palm whence the vile smoke is sucked into the mouth in good long draws to be puffed out in asthmatic coughs at leisure. And he is no exception. The smoking evil is almost universal. Every second or third villager has this tell-tale patch of dark brown nicotine in his palm and the accusing stench of tobacco in his breath. The question is why should he waste so much money on indulging in a senseless vice, when he can otherwise procure much greater satisfaction for himself and also his family at half the cost? Moreover even if the landlord were to forego all his rents, why even then the villager would have the same old complaint, still less justified, as he would then be wasting very much more in passing the smoke-bowl in a bigger circle of cronies for much longer periods of time. Such is the slave and victim of vampire Nicotine. And there is another vamp: in the Toddy-shop, where all the money goes.

So it is not a counsel of idealism but one of simple practical wisdom to tell the villager to put more sweets and spices into his menu. He holds the wherewithal in the slip knot of his loin cloth.

Cordials and exhibits. These are quite essentially necessary in the improved dietary and menu. They replace smokes and drinks. They improve village social custom.

they find uses for the extra fruit that is being grown. The recipes are old as the hills; the Exhibition in the Fruit Preserving Section has collected the best of them and they are not luxuries but proven necessities. When the hard labour under the fierce sun is over or half through; and the scourge of the *hloo* is beating on the nearly nude body and face and feature are coated with dust and the throat is parched and the lips are baked by the unbearable heat—why then is the time for a refresher for such a draught as home-grown fruit and home-made syrup combine to prepare. It is anomalous that the villager should disdain these homely drinks but have recourse to the numerous intoxicants derived from the hemp, which form the inclined plane to damnation, moral, social, physical. But the Rural Area is the home of many anomalies, big and little, and this is one of the biggest which is the business of T R U E to remove whatever the cost.

Smokes and drinks. These are further anomalies which obtrude on rural uplift and obstruct the true course of social regeneration. And on top of the anomaly is the irony that they have no justification. In a land and at a time when cooling draught is wanted these insidious substitutes work havoc with any system howsoever sturdy and the villager succumbs to these evils. And the tragedy is that drink is taken on the sly, in fact, the most outrageous Toper will proclaim himself, if taxed with inebriety a *bhagat*, a saint of total abstinence. But the shuffling gait, the wobbly hand, and redshot eye-balls will promptly give him the lie. And as to smoke the tragedy is deeper and graver. As our foregoing survey of suffering in the Rural Area has amply shown, diseases of the eye, heart, and lung are rampant there and the prime cause is smoke.

Smokes and drinks are neither necessary nor sufficient. They are vices and like all vices indulged in because

of an unmastered craving and in response to a senseless habit acquired in hours of dissolute idleness. How to suppress the craving and curb the habit? Obviously by providing something more worthwhile. Prohibition will not do it, legislation alone will fail in its purpose; vituperation, which is propaganda at its acidest, will more likely add to the vice as fuel to fire. That has been the tragicomedy, really tragedy, of all previous attempts. Prohibition of liquor in one land led to such a fine outcrop of substituent intoxicants—wood, alcohol, sawdust brew and other deleterious decoctions—that alcoholikers' wards in hospitals overflowed, and court and press failed to suppress such surreptitious consumption as did not bring its dilapidated victim to the clinic. In fact, press, court, clinic reinforced with all the strong common-sense of a good citizenry signally failed to keep up prohibition and it went by the board. But that is not to say that the battle for prohibition has been in vain. The drink saloon has found a formidable rival in the Cinema Hall. Something better has been provided. Nature abhors a vacuum and the vacuum which prohibition alone was leaving is being filled up with greater profit. And as with drinking, so with smoking. A progressive province has enacted perfect legislation to stop juvenile smoking, and just in that province are juvenile smokers on the increase, obviously because they wish to try conclusions and forbidden fruit tastes sweeter. But what the Movie has done for drinking, Scouting can do for smoking. Cynics may say: Stop the tap and leave the bung-hole open! strain at the gnat and swallow the camel! But cynics are wrong, fundamentally wrong, a sufficient reason being that cynics have no right to exist and cynicism is totally out of place. In substance, if the juvenile can be saved from smoking, the adult will recoil in horror from the poisonous weed. As with smoke, so with drink.

Now remains the question : How to deal with the accumulated vices in the Rural Area ? Why replace liquor and tobacco with fruits, sweets and spices ! The process is easy and requires a little perseverance to ensure complete success. The fruit habit has to be cultivated. Actually the villager fights shy of fruit. To him it is a morsel for the mighty, not a dish for the million. Watch the re-actions of a child, a village child, which is the race in embryo and carries its destiny *in petto*; offer it a fig, and it will recoil in suspicion at the gift. Pressed to eat, it will register no joy, no pleasure, no sense of treasure trove and stored in childhood's eternal strongroom, which is the Tummy.

On the other hand, try the gift on a town child. He too will be averse to eating it, but for the reasons which are diametrically opposed. His palate is so jaded, his appetite so dulled, his "avidity" so to speak so void, that he will not be tempted to sample it; pressed, he will do so, as an obligation, for such is the plethora of fruit which is showered upon the town by the country as from a veritable cornucopia. Let the villager just puncture that horn of plenty and catch the leakage and the overflow and the leavings in his own lap. The slump in prices is not without a lesson. Let the skeleton at the feast, who provides the feast, fall to, and have a bite at the feast, first, himself.

The fruit habit can be easily cultivated. Sophisticated citizens of the mango country have that quaint party called the *mango party* at which each vies with the other in consuming more mangoes than he needs to establish new records. Such an *am-baxi* or *Mango contest* has its dark, not to say stupid, side but should such *fruit contests* not be tried in the *Rural Area* ? In Germany when a perishable fruit like the cherry comes to flood the market, pantry, table, picnics are arranged in the woods with a unique

refreshment formed by a basket of cherries which the jolly picnicmakers carry by turns. The mango in the sylvan glades satiate themselves with the delectable berry; and return home all the better for the outing and the stuffing. The villager can hold like revels and routs with *jamun*, *guava* and of course the peerless mango, with other fruits of the season to boot.

Sweets are not to be despised. It is in the Middle and the Near East already a friendly gesture, and a goodly custom and least of good neighbourliness, for calling to be regaled by the host with preserved fruit, flower, herb. Thus crystallised rose-leaf, mint sprigs and the like are freely offered and enjoyed. Even in Russia the good folks a lot of sweets and press them upon the stranger.

And spices have a function of their own in the anti-drink and anti-smoke campaign. Fruit may be scarce; sweet may cloy; then come the spices to whip the jaded palate and still the craving for smoke and drink. Spice-water is partaken from North to South and East to West in the country. Down South it is *amti* which is the national relish to the staple bread; up North it is *Sonth-ka-Pani* which is ginger water into which fried wafers or *puries* are dipped and then gobbled up. Further spices are taken in the form of *chats* to which the nearest equivalent is salad with a seasoning of *sauce tartare*. *Chats* are available in plenty and rich variety and the *chat* seller is public benefactor who should be pressed into the campaign against smoke and drink. After all these *chats* are nothing but fruits, vegetables and herbs seasoned with all condiments which ever made a show on an apothecary's shelf. How it may be asked, do fruits, sweets and spices still the craving for smoke and drink. By physiologically evoking the same or conjugated reactions. An apple a

day may keep the doctor away and an apple a time may not keep out a wine-glass a time, but the fruit and sweet fermenting within will evoke that gaseous feeling associated with smoke; and spices going down and lining the mucous of the mouth, throat and stomach will simulate all that pleasureable burning sensation associated with the kick of strong drinks without the curses that follow. And in any case the substituent spice will be the lesser evil of the two.

Roots and Herbs. Vitamines have come into their own and the whole alphabet is represented by particular foods which are carefully impressed by the up-to-date dietician on the popular attention. But there is another type, and a newer source of energy which can be captured with profit to the human system by diatetic devices. Their type is the so-called Garwitch radiation, a form of Ultra-violet rays which has such a powerful effect if administered in mild doses. Certain root crops are precisely rich in this form of radiation : Onions, carrots, turnips, beetroots, etc. These are easily available in the Rural area and there is no reason whatever why the villager should not grow them in his own house and use them in his own menu. For the benefit of those who, more out of prejudices than experience, may be tempted to belittle or even deny the efficacy of this new type of organic rays, let it be noted that the rate of growth of plants exposed to roots of onions, carrots, etc., has been found by the research members of the E. F. G. A. to be doubled solely in consequence of such exposure. For the sake of those who may be disposed to deny the effect of such rays on humans, let the following go down:

The effect of M-Rays on certain Human diseases by
S. D. Misr (p. 879 Proceedings of the First International

Congress of Electro-radiobiology Venice 1934) "*The idea that M-Rays can be utilised in the healing and curing of diseases both in plants and animals was suggested to me by my Professor Dr. S. S. Nehru* " His conclusions are on p. 885. "M-rays are present in and emitted by young onions. Those with 2 to 1 inch diameter are most active and only up to 24 hours after removal from the earth. M-rays when applied to diseased and inflamed tissue cause such changes in the cell metabolism that healthy action is brought about resulting steadily in cure. In cases where one standard treatment is not effective, when the same treatment is applied in conjunction with M-Rays it becomes effective and brings about a cure. On the view that M-rays are ultraviolet in character, but very mild in nature, the effect of such mild ultra-violet radiation on diseased tissue which is thereby activated, is worthy of serious consideration."

Now, if G-rays or M-rays have such a powerful effect on the human tissue in disease how much more powerful is the effect on the human organism in health ? The theory, if the critics call it so for their own satisfaction, may be stated in two lines so : The principle is that wherever there is cellular activity there is electrical energy and conversely where electrical energy of the right type is applied to cellular growth this is activated. Now M-rays are just one simple type of such electrical energy which is unplanted on the human system by the partaking of fresh raw onions, which stimulate activity and therewith the functioning of the whole system.

Herbs are useful in another way. They provide the necessary roughage for the concentrates. If concentrated diet or tabloid foods were at all useful or necessary, why then there should be such things as chewing, mastication,

rumination. Teeth would decay of pyorrhoea, salivation would stop, the jaws would lose mobility and the whole mouth would have to be recast by nature, going further down, the gullet and the stomach and the bowels and the rectum would all need drastic refashioning but that calamity is not to be. Foods which serve as roughage, ballast fillers which satisfy, thanks to their water content, have to be used in every sensible dietary. Salads figure so prominently in the Westerner's menu. Herbs should figure equally in the villagers. Roughages and concentrates, and vegetables and staples are the poles within which gravitates the whole equilibrium of food value and food losses.

Food values and food losses This is an intensively personal factor, which doctrinaires in the heat of the controversy are apt to overlook. One man's meat does often become another man's poison. What is sauce for the goose is not always sauce for the gander. Circumstances affect and alter cases at every step and the final index to the efficacy, efficiency and sufficiency of any diet will be furnished not by any food chart or balance of diet or table of analysis but by the fæces excreted by the individual. But the fæces must be faced with discrimination and not with rules of thumb. One eminent food expert opined from the fæces that the Indian villager was overfed. Plainly he had misread the verdict of the fæces. This really was that the Indian was so debilitated that he could not assimilate the little food that had gone down his gullet. All the food taken was washed. The food value had become a food loss.

Disease and diet. If the vitamins and hormones and the M-Rays are excluded then the human system will lack for essentials and languish—that is a truism which need no hammering out on the anvil of experience. Disease

and diet are often indissolubly interlinked : Polished rice and Beri-beri ; tinned meats and scurvy ; fattening food and diabetes ; fatless foods and tuberculosis ; etc. etc. , Some go further and assert that cancer that great' scourage of mankind is caused by flesh foods. Certainly, the flesh-pots of Egypt never brought felicity in the final reckoning and those who indulge in strong meats, high meats, often foul meats are not aware of the trouble they are laying in store. Rouennese duck is often Rouennese poison, poisoning the blood beyond recovery. A fowl suffering from Avian T. B. or white diarrhoea and too far gone for laying or sitting is dressed for the table. And the bigger animals are consumed without a thought of before or after. It is said that Lulli— that idol of life and fashion, love and art and romance in the grand era of France, when they stood for civilisation in excelsis once requested his lady love, a court beauty to reveal to him the curve of of her alabaster bosom. She begged him to desist. He insisted in his infatuation. Have, then, your wish, she yielded and yielding drew aside the scarf from her bosom to reveal to her horrified admirer a cancer that was eating into its rotundity. Dumbfounded Lulli is reported to have turned monk. Similarly many a care-free consumer to carrion, if he could look into the crude *abbatoirs* would turn vegetarian on the spot. Whoever talks of the survival of the fittest is patently wrong ; this is an age of the survival of the unfittest. Folks are living on the brink and often never realising it till too late. But often coming events cast their shadows before and a potential victim senses impending danger. But what does he do ? He adds poison to poison and hopes that it will eliminate poison. He piles confusion on confusion in the belief that it will obviate confusion. He promotes the length but not the fulness of life.

The villager is in another boat, but he too needs a homily on diet and disease. If he were better fed, he would be a proof to the many diseases that decimate the village population. The fruit garden and the dairy farm are sufficient to enrich his menu, if he will only readjust his economy more reasonably. This does not mean he should play into the hands of faddists, fond of food control. A word may be said about this.

There is a great fallacy in controlled menus. The jail-bird does hard labour in jail and eats jail diet and his curve is always going up. What is the reason ? Not that he is getting a controlled diet, but that he is getting a diet at all. Anyhow another lesson can be learnt from prison fare. It is much more economical and wholesome than the villager's own food as the pulses are replaced with legumes and greens. The villager has both. Why does he not use them ?

Two principles must be drilled into his brain and soak into his understanding: (1) the villager should live to eat and not live to sell; and (2) the villager should eat to live and not eat to survive. Both principles will be satisfied if he eats more food, more wholesome food, more economical food.

Work and play. No economy, agrarian, industrial or domestic, can be complete unless there is a labile balance between work and play to suit all times and every time. It is a hoary maxim: All work and no play makes Jack a dull boy; only in the rural area this hoary maxim is inverted and then invested with a new and useful meaning so when Jack is dull beyond belief, then he cannot have too much of work and too little of play. Some such principle, unintentionally but nonetheless effectively, underlies the present schemes of things. Uplifters in a hurry wish to make the villager's lot lighter, his life

brighter, his scene fitter for humans. They expect him to help himself. They forget that Jack has become so dull that he is incapable of any effort at self-betterment. How is he to be educated to a sense of his supreme imperfections ? Teaching will not do it ; preaching will not do it. In asking him to look upwards, onwards and away to the townsman's rich existence, "rich with the spoil of time," he is apt to over-reach himself and lose his own. T R U E has to find or make a gap in the villager's routine and he has to fill that gap. Where, however, work has become unrelieved drudgery and play a patent absurdity that gap remains hard to find and harder to fill.

(1) *Labour and Leisure.*

The cynic will say: your villager labours the whole day unless he is smoking and drinking (which is also labour) ; he produces superfluities ; and he cannot even enjoy them himself.

The cynic is right. The villager is undoubtedly labouring the livelong day in a lost or losing cause. The next department will show how he can labour to better advantage. Suffice it to recognise and to drive that recognition home, that he should labour less and rest more. How to drive this into his mind ?

Every little operation of his—for pleasure or profit or self-preservation—is tied up with unnecessary labour. Watch him step by step and tell him so:— Does he wish to urinate? He will trudge to a distant field for cover. Does he wish to ease himself ? He will travel with a *lota* of tell-tale water to a still more distant field with standing corn for still greater cover before he can attend to nature's imperious call. Does he wish to bathe himself? He will traverse several lanes armed with a pitcher and a *lota* and a draw-rope and

a change of clothes and transport himself and his ambulatory bathroom to the nearest caste-well for the inevitable ablutions and then the bathing itself may become much more than an ablution, a long drawn out process, a veritable ceremony. For what do they know of bathing who bathing only know ? The steps in the process are well-nigh interminable and the function is more meticulous and exacting than a Japanese tea-ceremony. Water is drawn. The bathing platform cleaned, more water drawn, the actual bathing done without stripping ; some rudimentary breathing exercise combined with sun-worship gone through ; rubbing and scrubbing with unsoaped hands performed ; further water poured down ; a loose end of the same clothing rinsed dry used as towelling in the measure it gets wet, it is strained dry again and yet again ; finally the change from wet clothes into dry clothes effected, and then the wet clothes are carefully washed, strained and dried and then taken back home, ready for the next day's performance.

Performance is the word. Every detail has become mechanical, in fact, second nature ; but the point is that much time and labour are spent in the long run.

Meal-time provides another performance, with inevitable undressing and re-dressing.

The agricultural operations absorb a lot of more time than they should if account is kept of the distances which separate the different plots in the different sections of the cultivated area of the village.

How, now, to find any leisure at all in this multiplicity of petty operations ? The simplest remedies are the most effective : Provide urinals, soakage pits, latrines, bathing platforms, consolidated holdings, fruitarian menu and so on.

The appalling waste of time is still more-staggering when the pre-occupations of the villager's wife and family are examined.

In the absence of proper sanitary enclosures the wife has to go out long distances in the twilight hours in search of covered jungle, bush, bracken etc. Much time is lost in drawing and carrying water from well to house. Then the farming operations, weeding, hoeing, manuring, harvesting, threshing, fetching and carrying leave her no peace. In addition, she is also the chief marketing agent and carrier of the family. Time after time, she may be seen carrying brushwood, firewood, bracken, *upla*, and petty cottage industry products, baskets, brooms, brushes etc. to market on the market days. If she is an expectant mother, as most of the time she is, she gets no rest; if she is a nursing mother, she has no day off but must take the new born babe to field, mart or wherever business calls her. She is the real hub of the household while the other hub is a brake.

Children are the worst sinners. Instead of going to school they are tending cattle in the jungle when not actually wasting their time elsewhere.

As with men, so with women, and indeed much more so, the same device and installations which save the time and labour of men will save the time and labour of women. Urinals and latrines will obviate the much bigger journeys which they have to make in search of privacy and cover in the vast open spaces of the jungle. A covered platform for bathing to be used as bathing ground near a well, would be a blessing beyond belief for the women-folk of the village. The thought that none such exists for females while only a slab is provided for males should not affright the philanthropist or the social worker. Never was need more acute than now—what with continuing depression and need for harder and greater incidence to disease and the call of personal hygiene. Such a simple bathing shed with *turshawa* growing in the drains when the washwater runs would be a

much more powerful engine of rural welfare than the radio or the cinema.

Similarly much time would be saved from the feminine programme if the marketing operations, especially the transport of separate loads on women's heads, could be organised by the village *arhatia* or agent provided with a bullock cart. One such would save the labour of 50 women for half the day. And as to children their labour value is little and it is the height of uneconomy and unreason to deflect the child from the school house to the pasture ground.

Here is need for broad views. And in such a broad view, the clash between labour-saving devices and waste-incurring customs has to be recognised, obviated and exploited and turned to the advantage of the former.

Labour in the village is free or forced i. e. freely given and freely taken; or it is taken by compulsion and given unwillingly. That is one way of looking at it. The reason will follow very soon. Another way is to consider labour in terms of money and price: Paid or unpaid and the intervening gradation fully paid, semi-paid, low-paid, unpaid. The reason is not different. Even in the West, forced unpaid labour is not or was not unknown. The *corvee* is the European equivalent for *begar*, and the press-gang is a close neighbour.

The reason of the greater disparity between the market value and the actual value of labour or more exactly its price expressed in the coinage of the land lies way down deep in the feudal system in the West and its nearest counterpart the zamindari system in the East, be zamindar the State itself or a prince or a baron or a superior type of zamindar himself. The cultivator holds the land at a rental which would be much higher than it

is, were it not for the fact that it includes service of some kind and at some time or other. Such service introduces the element of economic unreason in the agrarian economy. But a still broader view has to be taken. The 'zamindar has to realise that it would pay him more in the long run if the farmer is educated, his wife is educated, their children are educated. For with such education in the proper sense they would be able to work efficiently.

Labour gains and labour losses have to be carefully discriminated. A substantial component of the village population permanently or temporarily on the sick-list is a distinct labour loss. So also is a much bigger component of the village population vegetating, not living, on the borderline between health and disease. Still more so is so much bigger component doing wasteful labour, a distinct labour loss. On the other hand, an increasingly healthy population between educated, better fed, and better looked after is a real labour gain. And service cheerfully rendered as against coercively exacted—be the coercion applied by custom or otherwise—is a still greater gain to labour and addition to its value. So there should be less of labour and more of leisure; and the increased leisure should be properly capitalised.

There are work days and holidays; feast days and fast days. And yet the work is drudgery and the holiday a misnomer. The feast gives no blessing and the fast brings no merit. Nothing serves the end for which it was intended, and the ends and the means are all one inextricable jumble of waste. The villager, his wife and child are so busy doing nothing, nothing of real value, that there is no room left for sports and games. Exercise as such is not known and not understood. The reaction from work and overwork brings on depression and indolence

and defeatism which is misinterpreted as fatalism. The villager fundamentally is, like all villagers, a child of nature and indeed a play-child of nature, But he has lost *joie de vivre* if even he knew it. And his fatalism is not religion, still less religiosity : but the imprint of the uneconomic sordid groove in which he works, moves and has his being.

But provide him with leisure, and you enrich him with hope. The villager is almost universally a *husbandman*, but universally and invariably he has proved false and faithless to his main function, which is to *husband* his resources, chief among which stand time and leisure. Ostensibly he is occupied and preoccupied the whole day ; really he has opportunities for leisure and recreation, which he fritters away in idly confabulating with his cronies, discussing how to defeat this rival and that landlord, watching the old litigation and hatching the new. Of course, every villager is not quick of intelligence or nimble of wit or versed in agrarian law and procedure to contribute to the debate, which is engaged and guided by some superlative villain of the village peace, who is dubbed *gaon-ka-balistar* or village barrister ; but the unwary numskull provides the cash and the cause for the time for all the wasteful lawsuits which the village barrister starts at will. Often the villain of the peace inspires much greater fear and respect than the local justice of the peace and retains a stranglehold on healthy social life in the village. But for this incubus, social life in the village *choupal* where villagers gather with no purpose or foregather of set purpose, would really make for Rural Uplift, instead of agrarian disruption as it sadly does.

What shall TRUE do face to face with this creature of ill-omen ? Trace him out, shadow him ; expose him, capture the *chaupal* ; capture his clientele : cut all

4. It shall be decided by toss as to who will attack and who will defend.

5. The defender termed "Hurdanga" can run over the whole central gallery and stop where-ever he likes in this gallery.

6. Other defenders will remain in their respective galleries.

7. On the whistle being blown, the attackers shall attempt to enter the squares in such a manner as to avoid defenders from touching any of them.

8. The defender can only touch or strike the attacker trying to enter the square in front of him but the Hurdanga can do so at any place.

9. The defenders can not go beyond the boundary of their respective galleries.

10. If any attacker places his foot in another square, it will be considered that he crossed it.

11. The attacker who is touched while crossing the squares shall go out as disqualified.

12. On crossing all the squares by an attacker without being touched, the last defender will turn round and then touch the remaining attackers who have not crossed all the squares. But he will have to remain facing in the direction to which he had turned previously, in which case the defender in gallery no. 7 will be allowed to turn in any direction he wants.

13. When all the attackers have either crossed or been touched then all the defenders will turn about in their respective galleries.

14. After this the attack will commence from the opposite direction.

15. As soon as one attacker crosses all the squares without being touched then this team will be deemed to have won the contest.

16. If all the attackers are touched by the defenders then the defending side will be deemed to have won the game.

17. The following will be disqualifications:—

(1) If any defender steps out of his gallery.

(2) If an attacker steps or falls out of the boundary of the field.

(3) Any other point which the referee may deem to be a disqualification.

18. Any player infringing any of the above rules will be liable to be turned.

Pilili.

The length of the play ground which should be level will be according to the number of players. Its length will be greater than the breadth and there will be a straight line in the centre as shown below. The breadth will be 120 feet.

120 feet.										
Defenders										
120 feet	× Mugdars	×		×		×		×	Mugdars ×	120 feet
		×	6 ft.	No. 1 player	6 ft.	No. 2 player	6 ft.	×		
		×								
Defenders										

1. In the sketch above two of the attacking players have been shown sitting on the central line in such a manner that one player faces in one direction and the other in the opposite. The distance between them is 6 feet.

2. On either side of these two players *mugdars* are placed at respective distances of 6 feet.

3. Equal number of defenders will stand on either side of the central line.

4. ' On the whistle being blown one of the attackers should spring up and try to touch the defenders. He can run along any one of the side of the central line but he can not go to the opposite side without passing the *mugdars*.

5. The rest of the attackers will remain sitting while one of their players is running.

6. The attackers can not cross the line between the *Mugdars* while the defenders can.

7. An attacker can go behind any other attacker sitting on the line and after saying "*Pilili*" cause him to get up and take his place. The man who is thus made to get up will atonce spring up and chase after the defenders.

8. If any defender is touched then he will go over to the side of the attackers and sit down. The players sitting on the central line will face alternately in opposite directions with a distance of 6 feet in between each. On either flank of the players thus sitting down, will be placed a *Mugdar* at a distance of 6 ft. from the nearest player.

9. It is against the rules for a player to step off the playground, or for an attacker to cross the central line between the *mugdars* or for an attacker to turn in the opposite direction before reaching the *mugdars* and doubling back to the original direction from which he came.

10. The time limit for the game will be calculated at the rate of two minutes per player.

11. At the conclusion of the play the number of the remaining defenders will be compared with the remaining attackers. The side which has the larger number will be deemed to have won.

(3) Gulli Golf.

1. This game will be known as Gulli Golf.
2. The articles needed are.—
 - (1) *Danda* 2½ feet in length and 1½ inch thick 20 oz. in weight. The *danda* may be lighter than this weight but should not be more.
 - (2) *Gulli* 3 inches in length and 1½ inch thick having elongated ends.
 - (3) *Play ground*. There will be three holes each being 200 yds. off from the other, each hole will be 3 inches in depth and 4 inches in breadth. The ground around each hole will be levelled up so that a circle of ten feet diameter may be formed. Over each of the holes will be placed a flag with a number.
 - (4) A square 2 feet by 2 feet will also be levelled up at a distance of 3 feet from each circle.

Rules.

1. Any number of players can participate.
2. Each player will start from one of the squares by striking one end of the Gulli with his Danda and will thus propel the Gulli to next hole. The player who succeeds in taking his gulli from the starting point to the next hole in the least number of strokes will be deemed to have won. In the same way the player who takes his gulli to all the three holes in the least possible number of strokes will be deemed to have won. Every player is allowed to place his gulli anywhere in the square but after his every stroke he makes in taking the gulli to the circle will be counted.
3. Every player in turn will bounce up his gulli in the air with a stroke of his danda and then while it is in

the air he will strike the gulli as far as he can. If while the gulli is in the air and an attempt is made to strike it which fails then the attempt will be counted as one stroke.

4. If a player moves his gulli across the ground without bouncing it then the stroke will be counted as two.

5. All the players will play one after the other as described above.

6. After moving from a square to the next hole no player will move his gulli until all the players have reached the hole.

7. The players will then move off to the next hole in the manner already described.

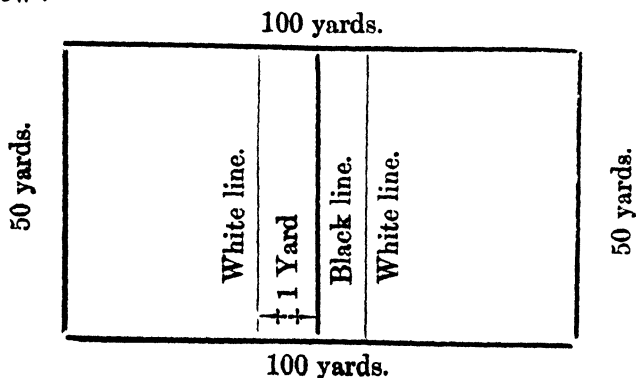
8. When all the players have reached the third hole then the one who has brought his gulli with the least number of strokes will be deemed the winner.

4 **Mugdar and Dand.**

In a contest it will be seen as to which competitor shows the largest varieties of turns in a given time. The largest number of turns and the length of duration will not count.

5 **Kabaddi.**

1. The play ground will be according to the sketch below :—



2. There will be two teams of ten players each.

3. Sides will be decided by toss and the winner of the toss will take any side (half portion of the play ground) he likes.

4. In turn a player from one side will go in to the other side shouting "*kabaddi kabaddi*"

5. The side winning the toss will send a player across to the defending side.

6. It will be imperative for this player to cross over the white line which marks the boundary of the defender's portion of the field. If he fails to cross over then the defenders will get a point.

7. If more than one player attempts to cross then the defenders will gain a point.

8. The defenders will attempt to catch hold of the player who comes to their portion of the field from the opposite side.

9. If any player of one side while shouting "*kabaddi, kabaddi*" or catching hold of another player or in any other manner steps off the play ground then the other side will gain point.

10. When a player goes across to the side he will continue to shout *kabaddi kabaddi* until his breath lasts and he should be capable of being heard all over the field.

11. If his breath fails or the referee considers that the player is not shouting loud enough then the other side will gain a point,

12. If a player while shouting *kabaddi kabaddi* goes across the other side and touches a player of the opposite side and is not caught or held by the latter then he will gain one point for his side. If he touches two players then he will gain 2 points or as many points as the number of the players he touches.

13. The team on whose side the player has come will attempt to catch hold of this player. But if this player keeps his breath and manages to touch the black line with his hand, foot or any other portion of the body then as many defenders who have a hold on him so many points will his (the attacker's) side gain.

14. The defending side should bear in mind that the lesser the number of players who catch an attacker the greater will be the points which they will gain, for instance if one defender catches and holds an attacker then the former's side will gain 9 points. If 2 catch then gain 8 points, if 3 then 7, if 4 then 6, if 5 then 5, if 6 then 4, if 7 then 3, if 8 then 2, if 9 then 1 and if 10 catch then they will gain no point.

Note—The object of this rule is that the least number of the defenders may catch an attacker and also to eliminate the fear of an attacker being injured or hurt.

15. When a player deliberately injures a player of the opposite side then the later will gain 5 point, and the referee will be authorized to turn the player off the field.

16. If any player uses any other word than "*kabaddi*" when his turn comes then the opposite side will gain one point and the referee is authorized to remove any player who makes noise during the game.

17. The duration of the game will be 10 minutes a side.

18. At the conclusion of the game that team will be declared to have won which has the largest number of points.

19. Every player will obey the referee and the referee is empowered to remove any player who infringes these rules.

20. When a point is awarded the referee will blow his whistle on which every player will quickly go back to his respective side. If any player of one side fails to go back to his side on hearing the whistle then the other side will gain a point.

Last but not least comes swimming—not an art or craft for the few but a real necessity of life and life surviving for the millions. The old Persian fable of the philosopher laden with learning who taxed the uncouth boatman with wasting half his life because he did not know philosophy received the retort when a storm brew up and the boat began to sink and confessed to the boatman that he did not know swimming: Now all your life is wasted ! is much more than a fable. It is a reminder that the surest way to safeguard life and property in the rural area is to learn swimming. Not a village but has its treacherous pits, tanks, hollows, pools, wayside *nallahs* etc. which during the long months of the monsoon become raging torrents and levy toll on life and property. Every villager must know how to swim.

The Physical Culture Association ensures this through a very simple game from Europe modified for Rural Area and played in the most inexpensive form: Water Polo for villagers. The rules are so :—

Rules for water-polo as played in the village.

1. Four players play a side.
2. Side is decided by the referee's toss.
3. Start—All players stand in a line with their goal-posts. They take up the following position after the game starts.

Goal keeper	1
Back	1
Forwards	2
Total	4

To start the game, the referee stands on the middle line of the tank, blows the whistle and throws the ball into centre of the tank. The players of both sides rush up to the ball when the whistle goes.

4. Game—The forwards aided by the back try to put the ball into the goal opposite by

(a) Driving the ball individually.

(b) Passing it to fellow-players.

5. Scoring of goal is indicated by a loud blow of the whistle.

6. After every goal the parties change sides without delay.

7. *Out*—Whenever the ball touches the sides of the tank or is thrown out of the tank it is taken as “out” and has to be thrown into the middle of the tank by the referee or the linesman.

8. *Foul*—The following are considered as “foul” during the play:—

(a) Holding the ball.

(b) Supporting the ball on the hand while throwing, passing or shooting into goal.

(c) Holding, catching, wilfully obstructing or kicking a player.

(d) Catching the ball with both hands at the same time; either hand can be used at one time.

(e) Diving into the water.

(f) Trying to dip the ball under the water surface.

(g) Disobedience of the referee.

9. *Penalty for Foul*—As soon as a foul is committed the referee blows the whistle and the player or players found by the referee to have committed the foul must go out of the tank and remain out until re-allowed to enter.

10 Result—The side scoring the greater number of goal wins.

11. Time—20 minutes with an interval^{*} of 5 minutes at half time.

To ensure practice in life saving let each player be armed with a *matka* which will have to be kept safe i. e. undamaged during the struggle and incidentally add to life and speed. Both are vital factors.

Critics may say. What about woman ? and Zenana parks ? and Zenana committees ? and Parda arrangement ? and Parda playgrounds. You will never get the woman out of *parda*.

Now critics are generally wrong somewhere. In this case all the more so, when they generalise without any preliminary experience. The safest answer to these as indeed all critics is *experientia docet* ? Try out. As it happens, rural sports held by the movement (Mainpuri Devi Fair Rural Uplift Movement) have shown that women enter into the spirit of games ; they compete with the zest of the primitives they emerge easy victors over the sophisticated hidebound parda-immured townswoman. The Rural Area has no impediments in the shape of the *pardah* certainly not for the classes that count. Those that do set up a pretentious sort of a *pardah* are pinchbeck simulacrum of the towns and do not count, indeed are at a discount. So summing up men and women and of course children will benefit by the provision of leisure and the provision of pastime to occupy that leisure : Leisure for physical culture, leisure for night school, leisure for community life, leisure for Rural Uplift—the secret of which is to realise leisure and to capitalise it.

YIELD AND FARM.

The villager's hearth and homes, his lares and penates, are rightly or wrongly matters of minor moment, at least in his own eyes and if those eyes are satisfied by the spread and wave of his cornfields and the tie of his fragmented farm, then it is good-bye to the Rural Uplifter and his thankless occupation. For the villagers will deem his business well done and the outsiders interference ended, if his land can bear good crops and these crops can bring good money. So long as this was the case, in fact or fiction within local knowledge or popular belief, not a whisper was heard of Rural Uplift; the phrase was yet unborn.

But soon come the *volti face*, the change of face with disillusionment and despair. The good crops were not good enough; for better were coming in from abroad; the good prices slumped and became ruinous. The farm was running at a loss—agriculture was no longer a paying proposition.

(1) *The bankruptcy of agriculture* What to do? and how to do it? If ruin had to be starved off—the bankruptcy of agriculture had to be recognised at the outset. But how to reconcile the old villagers to his new lot? To tell him that he must give up his age-old habits of tilth and husbandry and adopt and modify the more up-to-date methods which enabled foreign lands to over-produce and undersell him in his own home-marts was to tender counsel that fell on deaf ears. His whole agricultural system was tottering—props and pedestals furnished by hurried litigation might put off the evil day, but what was wanted was a radical change of system ideal in theory, execrable in practice, for the villager, conservative to the core, was not, and is not, going to change with the changing times.

thousands of villagers have turned to the new methods unbidden and unsolicited.

T R U E has been frank all along for his very name shows that he cannot dissemble. He has held out the promise of horticulture with electroculture and helped in its performance, and performances not exclusively to put more money into the villager's purse but more nourishment into his person. If the villagers can raise more money, well and good. But if he can raise the best stock, which is human stock, i. e. himself, then T R U E's real mission is ended.

3. *The lure of other cultures.* The greatest service which E. F. G. A. has been able to render the villagers is to allure him to other cultures and lead the way. How this has been attempted form a chapter within chapter but since the theme is superlatively important for restoring the agrarian unbalance no apology is offered or needed to present right here the whole *catalogue raisonnee*.

I. Methodology.—The method that have been developed and are in course of developments require, for understanding their scientific bearing fully, a reference to the previous works of the President on the subject, which are given in Appendix A. There the worker will realise how the early tests were made with very powerful currents, spark, doses with the result that repeating Hercules' encounter with the robber, a hundred blows were given with ninety wasted. In other words, it was soon realised that long, strong treatments were all a waste of energy and likely to do harm. Thereafter, the simplest methods based on very mild brief dosages came to be adopted till finally the extremely mild type of treatment with jacketing has pushed every other out of the field. At the same time, the field itself has been expanded to cover Plants, Animals and Humans. Evidently, the technique of methodo-

logy itself is capable of, and subject to, further perfection. Thus, for instance, it has yet to be fixed when exactly a treatment should begin and when it should terminate to secure a certain specified result. There are many pointers for workers who follow. They will enrich these researches with their results. For the moment, suffice it to realise that the simplified methods have met with ready and almost universal acceptance, not only on paper, but what is more important in the field, in the farm, in the garden, in the pen, in the byre, in the yard in the sick-room in fact where ever Electroculture can be applied to Plants, Animals and Humans.

II. Garden Practice:—The individual publication will speak for themselves. But it is important to note how dying gardens have come to life. Such trees as were falling under the woodman's axe have been saved. Amateurs tell their story. Garden lovers enumerate the good results they have obtained and the whole section crystalises the most profitable elements of Garden Practice

III. Special:—These are especially selected plants on which workers have spent much time and labour in the pursuit of researches, which have added to the store of our practical knowledge on the subject. The plants chosen are of great value for Industry, Home, Farm, etc. Thus while the General Sections have dealt with the garden species, here the selection has fallen on Plum, *Jamun*, Mulberry, *Pan*, Palm, Rubber, Fig, Custard Apple, Guava, Bamboo, *Dhak*, Broomcorn, *Duranta*, Tomato, Mango, Cucumber, *Karela*, *Bhindi*, Croton, Pea, Potato, Cauliflower, British Mushrooms, Rose and Cotton. The value and importance of each of these plant is undeniable and research is continuing.

IV. Pests and Disease:—Good results have been obtained in fighting these invaders of the home and farm, be

they visible, semi-visible or invisible, from the monkey to the virus. Methods have been worked out with success in combating them.

V. Records:—These records will show that Electroculture once applied looks after itself and leads to results which continue from year to year.

VI. Controversial:—The Section is devoted to controversies which have been opened not by the Association but by critics, cynics, sceptics, who would come forward with a query and often not wait for an answer. In the interest of Electroculture and Electroculturists, it is desirable to put down a systematic answer to such queries in the present form.

VII. Exhibitions and Demonstrations:—As the large majority of the practical farmers and amateurs are illiterate or have no access to the literature, it was essential to hold the greatest possible number of exhibitions and demonstrations at suitable centres in the Rural Area. Very soon after the first show the province of Electroculture had expanded to cover not only all Plants but also Animals and Humans. The Electroculture Show with the accompanying demonstration became a gathering centre on the one hand for those who had already achieved good results, and on the other, for those who were anxious to apply the new methods. Their success can be gauged from the fact that they came to be held at many distant places and at very short or even without notice. Indeed there was no difficulty in collecting human exhibits for such demonstrations since those who had been treated separately thronged the auditorium and helped to demonstrate the effects of treatment.

VIII. Exact Tests:—The reproach has often been levelled that many of the tests undertaken by members of

the Association are exact. This, in a way, is reproach, which attaches to all human effort, but broadly considered it is impossible for test, which are made on varying scales, to have the same measure of exactitude. Anyhow some members of the Association have made very exact test with notable success.

IX. Human Electroculture:—The widening of the field from Plants to Humans was not sought by the Association but forced upon it by sufferers, who came forward in large numbers for trying out the Electrocultural methods on themselves when they were being demonstrated to the public. Their number has exceeded ten thousand and they have helped to collect information, to make generalisations and to achieve results, which are of considerable therapeutic and prophylactic value.

X. Animal Electroculture:—Veterinary Science is obviously not so advanced as Medical Science, but the relief is very much harder to get in the wide tracts in the rural area. It is, therefore, inevitable that owners and lovers of animals should bring them for Electrocultural treatment. Their result have added a special significance to Electroculture.

XI. Miscellaneous:—This Section is really concerned with matters of domestic improvement and serves to fill up material gaps in the frame-work of the Association and its activities.

Fruit is health and wealth. That home-truth needs no hammering in but like home-truths it has been long overlooked and much spade work had to be done before E. F. G. A. could awaken the popular conscience. Special notice entitled FRUIT IS MONEY put the whole case for fruit culture in a nutshell. It was printed in a Bombay journal, but reprinted and translated and broadcast in the

rural area by the thousand. Even now it is far from out-of-date and deserves to be found space here.

• • Fruit is money.

This is the age of Slogans, the era of Publicity. Get rich quickly, say it quick. If time is money fruit is health, wealth, everything.

How, health, need not be laboured. No food survey is needed to show the appalling lack of fruit in the Indian dietary. Already, in many parts of the country better living societies are taking to fruit culture. That is a tardy recognition of a vital need, but one swallow does not make a spring, and one such society or even scores and scores of them will hardly create the Indian summer for fruit which is devoutly to be wished for. The greatest deficiency in food values is the lack of vitamins, for our vitaminised diet, consisting of grains and pulses with one mineral salt and its associates, as seasoning is first and foremost responsible for our poor physique and stamina. Fit in fruit into the menu and there is room for it at every stage and at every place and therewith you restore balance without which the human body cannot function efficiently. There is no fruit but has a disproportionately large amount of vitamins, mineral salts, gases and many more such subtle ingredients as feed the flame of life. And that is no flight of fancy or lapse of the pen. Who would believe that the homely and despised onion is rich in *organic rays* which support the very process of life, and yet our recent researches have shown that not only the plant but also the human tissue, complex in all its manifestations are all vitalised by mere exposure to that modest root and the rays it emanates. But that it is not all. There are prospects of utilising such organic rays for rejuvenation, a theme we shall not pursue despite its extreme fascination. Suffice

it to say that glandular surgery and organotherapy which are the latest fashionable adjuncts to the rejuvenator's armoury which the average man contemplates with awe and shudder will soon have substitutes in the shape of vital rays emitted by plants.

But *why is fruit actually money* ?

The reasons are not far to seek. In no country is agriculture as such paying, but everywhere subsidiary cultures, peas, bees, pigs, poultry, and the like are helping to keep the farmer's head above water and pride of place in such safety, side-industries should be given to Fruit Culture. The reasons are clear :—

Fruit is easy money, while agriculture means farm labour and activity all round. A fruit tree requires little attention. You plant the tree; you undertake the minimum of ward and watch, care and caution, and when the time comes, you gather the fruit. The pests are not very obvious, the diseases are not pandemic; marauding birds, beasts and men are kept out; and the fruit is collected as it drops into your lap.

Its disposal is very simple, and without any preliminary or parallel, or subsequent gambling or futures or *sattas* or speculations in any shape or form, your *fruit becomes cash*. You keep what you want for your home. You sell surplus to the fruiterer or fruit grower or *Kunjra* and he does the rest. As small cottage industry, as a large scale commercial occupation, fruit-culture pays all along. No garden but can have fruit trees, for pleasure and profit, for shade and fruit, and if you shirk the trouble of even looking after your fruit trees why then you give the whole cultivation on hire to the *Kunjra*, which he will take on your terms, while on no terms he may be willing to take your flower-beds or corn-fields.

More pressing is a question : What are the uses of fruit ? *Mangoes* our premier fruit, can be used as flake, cakes, juice pulp, preserve, spice. Sweet *Citrus* can be used as drink, relish, preserve confectionary and still more effectively in art, trade and commerce. *Guava* is good fruit, jelly preserve and the like. *Amala* has all the above uses and figures very prominently in the Indian pharmacopia, *Papaya* has numerous uses especially as papaine, *Mahua* yields a flower which is article of food, and traders' goods without a rival, The flower is edible, dry, cooked and in a variety of ways. It ferments into wine, makes methylated and rectified spirit, forms the basis of perfumes, is a good standby to the chemist and can be made to yield acetone on the one-hand and alcohol power on the other. The fruit is tasty, in fact due to sugar content begining to ferment. If any crop need immediate attention at the hand of the manufacturer, it is *Mahua* flower, because of its fermenting sugar and the waste matter can be used as a bye-product in the shape of plant (organic) manure. *Tomato* is a fruit drink and relish without a parallel.

The last question remains: how is our fruit culture to be improved to compete with the foreign product ? Here, too the answer is very simple: by the very effective application of certain methods which have been worked out and the basis of which is the utilisation of electro-magnetic sources of energy in the atmosphere, it is possible to increase the growth and yield of fruit trees anything up to cent per cent such as strawberry plants, gooseberry plants, *falsa*, mulberry, guava tree, lemon trees, custard-apple tree, *gular*, *jamun*, *mahua*, mango tree, papaya, jack-fruit, citrus plants, hazara oranges, and chikhoo plant. All responded very powerfully to this form of treatment which consists in giving them a collar or jacket or metallic wire-netting at the root or the branch whereby the

circumambient energy is easily tapped. This is not the place, nor now the time, to explain the electro-biological basis, but the result have been confirmed in hundreds of gardens and the greatest confirmation is available to who-ever is so minded to try, as seeing is believing. Be it fruit or flower or tree, a simple ring, collar or jacket of iron wire-netting between an inch and four will effect miracles. But seeing is believing and let this then, be an invitation, for whoever has a luxurious garden or modest patch to try this simplest form of Modern Electrocultural methods."

The Mainpuri Fruit Growers Association with a membership of over 150 in a couple of months offers the the greatest possible facilities for improved fruit-culture. Its charges are so low as to be almost negligible: Rs. 4/- per annum.

This Association is prepared to enrol *non-residents* of Mainpuri District as life members only with the concession that only one half of the usual fee i. e. Rs. 25/ should be charged. This will include the usual services, free supply of leaflets, information, advice, training of malis etc.

The advantages of membership are as follows:—

1. Instructive visit to the President's Botanical Garden and to other gardens; (2) Training of member's *mali* or agent in the new electrocultural method according to the latest information and results of researches; (3) Exchange of information by publication notes; correspondence, visits and otherwise; (4) Exchange of seed-, seedlings grafts, stock etc., (5) Participation in Fruit Show (6) Treatment of diseased plants and (7) Scientific advice.

Undoubtedly, Fruit is money— But even that is not enough. T R U E must look further ahead and go further a field. No country in the world has so much and such

wasted space as Rural India. There are wastes of water and wastes of land. As to wastes of water there are *jheels*, tanks, lake, ponds, streams, and rivers. Stagnant water can easily bear good crops of *water nut*, which need very little attention and add to income. Both stagnant and rainy water afford further scope for pisci-cultures which is itself fraught with weighty possibilities. To expect up-to-date hatcheries for choice fish for home and market is to expect too much so early in the day but fishing grounds and fishing rights are easily recognised for this lot they are worth judging from the wrangles among zamindars in regard to them. Now it is up to the zamindar, who has secured the fish bearing tanks and ponds to do something for the proper breeding and care of fishes. The first step is to keep the surface clean of algæ, weeds and the like. How easy it is and yet how few take that step. ? Then water hyacinth, that formidable nuisance and scourage needs special looking after. Once it gets a foot-hold, it stays and spreads and then no counter measures are of slightest use in arresting its ravages for this noxious weed overspreads cultural areas and reduces the volume no less than the level of cultivation. Eminent *ad hoc* committees have met, sat and pondered and then sunk into silence and oblivion like the snows of yester-year. Fortunately the easiest, simplest, best and remedy is still in the hands of the villagers, owners or users of the stagnant water spaces. TRUE need only repeat the warning, keep them clean of weeds and then thing will repay you a hundred fold with more fish, better fish, healthier fish on the one hand and freedom from noxious growths such as malaria-bearing mosquito larvæ and crop-killing water hyacinth on the other.

Pisciculture is an auxiliary culture of prime importance but the villager has not a thought for it. But this is not right; for such neglect is against nature, against culture,

and against tradition for it is not many countries outside India which can boast of such fine *pukka* tanks and reservoirs of water for the hot months which date back hundreds and hundreds of years into ancient Indian history and proclaim the munificence and charity of their makers. Such tanks largely languish in neglect but if properly cleaned up and arboricultured they will provide fresh cool green spots for their residents, beauty spots for the visitors and excellent stock of fish for both.

A poser frequently put to T R U E is how to improve this size, stock and breed of fish without the trouble of setting up hatcheries, traps and the like. A simple means to hand is offered by electroculture. Electrified water is proving so efficacious in electroculturing plants, animals, human. Now an ordinary *pucca* tank which has been properly cleaned up and left clean need only be treated when it is full of water with the high tension discharge for a few minutes from a car every now and then for all the water to be mildly energised and so help to support and improve life.

Waste space on land:—common, jungle, scrub, bracken, briar, *dhak*, *usar* require a special culture, cultivation and reclamation of their own to fit them into the agrarian economy and make them bring profitable returns. T R U E must see to the culture of each in proper measure.

The village common apparently grows and can grow nothing. Actually it grows the vital requirements of the village pastures. It is the fuel which drives the village wheels and plough. Obviously without good pasture, green pastures, the ploughs will cease to turn the sod and the wheel will cease to carry the cart for lack of bullock power. To follow the mischief deeper the cows will cease to yield good milk, enough milk and without agricultural stock,

it will be good-bye to dairying, husbandry and agriculture. This is not largely recognised, or at all, or even where it is recognised it is not acted upon. For where is the zamindar who wastes a thought or care on his pastures and yet he is a true and proper son of his pastures a live native of his native heath. In Europe grasslands are as important as plough lands. Pedigree grasses are grown with as loving care as bloodstock. Timothy, fescue, clover are on the lips of every farmer. What would such enlightened farmers call our birth-proud zamindars. Pedigree asses ! and the abuse would be richly merited for the common used as pasturage is not even enclosed. True, in certain parts of the country much fuss is made of *Gauchor* and *Panghat* pasture ground and watering ground—for cattle but the real motive behind such fuss is to prevent a rival from extending his cultivation, not to safeguard and improve the village livestock by securing it suitable food and drink.

How to improve the commons used as pasture ? by looking after them, watching them, tending them. Even if they are properly demarcated *bundhed*, *mendhed* that will help them to retain their surface, water and sub-soil moisture. That little care will go a long way. Even groves bearing a few scanty trees provided with such a *bandh* or *medh* have grass which is much bigger, better, fresher than the scanty stunted growths on the open unenclosed space beyond. The question of manure need present no difficulty. The animals grazing will themselves dung it to satisfaction. So the commons will become live pastures instead of dead deceptive herbage.

Jungle. Forests, afforestation, deforestation are problems beyond the purview of the villager, but his jungle is always with him a spread of waste which can

easily be converted into a source of wealth. He need not be an accomplished forest-ranger but he can easily range his jungle and pounce upon treasures, which will put money in his purse and bring comfort to his home. Obviously he can range and scour his jungle in search of brushwood, firewood, fallen and dry timber and the like. Thereby he will use this natural fuel and economise in the wasteful *upla*, which is the best manure available. Less obviously but more profitably he can pick up horn, hides hoofs of animals which bring in good income. In fact some jungle contractors for such animal debris run into four figures per annum, and the expense is only living or less than living wage of a handful of rangers engaged by the business-like get-rich-quick contractor. Still less obviously but even more profitably, he can collect edible mushrooms which fortunately do not grow in patches few and far between but can easily be spotted as nature's own cultivation. The villager calls them *Katphul* the wood flower and appreciates the flavour but not its money value. Those who have grown the British mushroom in India a most difficult operation which for the first has been performed by the E. F. G. A. have noticed no special difference between the British and the Indian variety, certainly nothing to the disadvantage of the latter while British mushroom go long distance by the Nadi route and find their way into many homes. But mushroom still remain caviare to the general, which should not be. Other sources of jungle wealth are the wildernesses of economically paying trees: Bamboo *Babul*, *Dhak*, to take a few outstanding examples. The bamboo has uses which cannot be easily catalogued. The *babul* is invaluable for tanning, and certain zamindars have been known to convert even this groveland into *babul* plantations. The *dhak* enters every day life in the village very intimately. Its leaf forms the *Duna* or

bag so popular with confectioners, caterers. *halvais* which are better and certainly more hygienic than paper, bags : its flower produces the beautiful yellow dye, fast and furious, with which the vivacious matron maidens animate the village scene yard, market, lane, field, street through the intensely aggressive yellow of their *chadar* or scarfs. There are other self grown plants in the jungle which will amply repay a little attention. T R U E has only to make sure that this attention is paid by the villager, who will agree in principle but forget in practice.

Another still more striking type of waste land is the *usar*. This is the problem, of problems in the Rural Area. The farmer dreads it, for it throws valuable ploughland out of cultivation. The zamindar dislikes it for it means trouble in collecting his rent and mainly responsible for the making of bad pay masters. The state disapproves of it as it reduces the culturable area and the assessment. But the *usar* is like the nettle—"Grasp it like a man mettle and it is soft as silk remains" that at any rate is the Electroculturnists view and with reason.

What is exactly *usar*. It means land unfit for any use but the Electroculturnist will show that it can still be put to use and capable of improvement and reclamation. How ?

A little preliminary orientation is necessary. *Usar* is of two kinds, *usar* in esse and *usar* in posse, or in longer phrases, the complete *usar* and the growing *usar*. The former is met with in wide tract. There is very little growth ; no plant, fruit, flower, leaf bud, nothing but a wide waste of earth brown here, white or whitening there soft and friable at one time, hard and durable at another but expanding as a steppe and desolate as a desert. The second is still more dangerous being insidious. It grows up more or less unexpectedly and indeed stealthily where lest

expected. In the middle of good cultivation there are patches of baldness, where the plant life is withering and dying and baldness is beginning to gain upon this growth. The simile of human hairlessness goes further still. Like dandruff on human head, whitish matter is beginning to peel off. It is a deposit of sodium or other salts, largely sulphates from below. The more it is scraped off, leached off, ploughed in, the faster it emerges from below.

With the existing *usar* one can reckon and leave it severely alone but with the growing *usar* there is no reckoning, nor can be, for none can foresee where next the patch of white may crop up and how overspread.

To clear the ground of nostrums let it be said once for all that there is no cure for *usar* according to existing methods, which are all confessions of failure. The sympathetic observer is shocked to observe on the spot the appalling waste of time, labour and hope in the usual expedients employed—deep digging, deep ploughing, excavations, fruiteropping instead of cerealcropping, green manuring, black manuring, rotting in situ, rotting in pits, replacing the local with imported soil, adding lime, kankar concrete etc. These are evidently blows in the air kill or cure devices, which signally fail of their purpose, for they have no scientific basis or even rational approach to the problem. But thanks to experience, the, electroculturist can here speak with authority.

The rankest of *usar* land was tractor-ploughed and care taken to pump in electrified air every time a sod was turned. This process is called "tickling the soil" and then a variety of electrocultured seeds were sown and sugarcane ratoons transplanted. To make the plough grip, the land was softened with preliminary watering. The result was that the *usar* so electrocultured supported

plant life while the control plot did not. Other tests had already shown that electroculture had helped seed to germinate even on artificial sand bed without manure.

Then comes the real problem. How to tackle the efflorescence of salt from below. In some hardened *usar* this has definitely stopped and then such *usars* have been shown to bear after proper electroculture good fruit trees, pedigree mangoes and such difficult flowers as English roses in their full glory. In other immature *usars* the efflorescence is still going on, and then the problem is how to control it and direct its course. Without going deep into technical detail let it be made clear that this precipitation of *usar* salt by efflorescence, is an electrical phenomenon in as much as it takes place under the action of electrical forces. If now the electroculturist sets up an electrical field in the soil by suitable wirenetting or wireplumbs or sounds he can regulate the course of precipitation. If in series, this will take place between the series of wirenet screens and the salt will be thickest near the screens and thinnest far away. In this way the local salt coming up—apparently sporadically but really in response to definite electrical forces—will be redistributed and form slabs of salt with slices of pure unadulterated soil. The latter will support vegetation; the former will support industry; and the *usar* problem will become a memory.

Reclamation and capitalisation of usar. *Usar* land so reclaimed, as explained above can be capitalised, given proper electroculture, they can be used for orchards or fruit gardens, they can be used for flower gardens, they can be used for arboriculture, they can be used for pastures. There can be many more uses and users of *usar*. This is real Rural Uplift and T R U E will have a field-day here.

Fields proper. Having cleaned the wasted spaces out of the way, the fields, as such, claim attention. How have

they grown ? How are they treated ? How are they directed and improved ? How are they divided and subdivided ? What are the inner agrarian politics ? What is the work of boundaries ? What is the elimination of metes and bounds ? What is the tyranny of the jungle ? What is the fragmentation of farm and the consolidation of holdings ? These are problems with many more to follow which engage one at the threshold.

The growth of the field is the growth of the village itself, in epitome. The absentee tenants—there is such a person as there is the absentee landlord—comes to the new area, in search of land to plough, scratches the surface, raises a crop, returns season after season. The good news spreads. Other absentee tenants follow in his wake and bring scattered but adjoining bits of land under plough. This casual cultivation of the outlying area is rich in possibilities, when the old village cultivation did not suffice, and in due course the absentee tenant himself or an idle son or nephew is settled on the spot to look after the new cultivation, and the new settlement comes into being, may-be as a hamlet of the old village or an independent village on its own account.

The fields which interlock and dovetail into one another are aligned anyhow, no pattern of squares or rectangles, for the most part shapeless or having shapes unknown to geometry and mensuration. The only outstanding feature is the boundary and this stands out too much. To peg a claim in the prospector's language, the villagers take care to set up a tall broad boundary and with subsequent cultivations the boundary tends to get broader and taller—broader because the bullock shies at the mound and gives it a wide berth and does not pull hard enough. So the adjacent strip of land next to the boundary bears a thin crop or no crop at all ; and taller,

because weeds and jungly growths spring up on and along the boundary. The existence of such a growing boundary is therefore a waste of culturable land. To eliminate these metes and bounds and consolidate holding and collectivise farms is our tendency. Another tendency which runs counter to it is to go on dividing and subdividing until the holdings and the farm are broken up into countless sub-plots and their fragments. Both tendencies are at work ; which gains upon which will be settled by the weather-cock : Inner Agrarian Politics.

A tenant dies: Three sons survive him. They sub-divide his holding into three parts. At first, it is all amity and co-operation. Then comes friction insidious, sure. The sons begin to quarrel ; that is one case ; their wives have a wrangle which is a more probable case—most probable of all, the youngest dis-satisfied with his subaltern lot last come, last served, getting the worst of every thing goes into partnership with a *sajhi* on *batai* and quits. He drifts into the city—may be as far as Calcutta or Bombay in search of service. The grain share supports his family. But his partner is a crafty fellow and does not plough the land and raise a crop for nothing. His tendency is to gain upon the other brother's land and boundary disputes arise. Boundries are made wider, deeper, taller as the case may be. Fragmentation proceeds and tends to perpetuate itself. Or again a zamindar dies and his heirs and assignees, lessees and mortgagees and other right-holders under law have a partition and his estate and holdings are cut up. Partition is, despite a lower limit, a very familiar popular feature, which renders the agrarian system very complicated and inefficient.

What shall T R U E do in face of this fragmentation with all its obvious evils ? consolidate, consolidate consolidate—That is a counsel of perfection and falls on deaf

ears. It also runs counter to human nature for if a man has got different plots of different degrees of fertility in different parts of the diversified culturable and cultured area in the village, how can he be expected to give up all but one variety and to concentrate on only one for the *beaux yeux* or the sweet favour of the agrarian theorist ? On the other hand, it is also obvious that with breaking up of the plots to the last decimal, all the advantages of progressive agricultural methods will be lost: in fact those methods will never be properly applied.

How shall T R U E proceed in such a dilemma ? Obviously, the correct way is that suggested by co-partnership. Such tenants as cannot or do not or will not cultivate of themselves—minors, widows, orphans, cripples, absentees and the like—easily enter into co-partnership or *sajhi* with seasoned cultivators who will till the land, raise a crop and divide this produce. Usually the above categories of non-cultivating tenants have got the poorer, remoter fragmented plots ; rarely, the better, richer lands near the habitable area of the village. The seasoned cultivator who takes up the holding of one N. C. T. with alacrity will take up the adjoining lands of the other N. C. T.'s with equal or greater alacrity. Possibly he may bump into the plots of other cultivators who are not N. T. C. but cultivate themselves. Such usually have fragmented holding, poorer plots far away and richer nearer the *abadi*. These then, may be persuaded in season to concentrate on the nearer richer plots themselves, and to let the *sajhi* take up the poorer, remoter plots. He will surely raise a better crop and they stand to gain. So it is the interest of all that such outlying holdings should be consolidated and they easily can be on the above lines. So the poorer sterile lands can be made to yield a better return.

Sterility. That is one solution, a very partial one, of the problem of sterility. Now sterility is of two kinds, temporary and permanent. At bottom, it is a difference of degrees more than kind. Land may get sterile through (i) over-use and wastage of plant food and microzoa; (ii) saline efflorescences; (iii) leaching, drying, water—logging etc. caused by shift of drainage, drought, rainfall in excess or defect. Naturally land tends to regenerate itself and therefore it is usual to leave it fallow. But there is the fallacy of fallow which should be watched. If the regenerative process be accelerated in other ways than more rest and disuse, why, then, surely it is profitable to employ them. That is the secret of principle of rotation of crops. But generally speaking there is no form or degree of sterility which cannot be cured or mitigated by Electroculture. The dozens of research bulletins issued by E. F. G. A. bear eloquent witness to that basic fact.

Crops. Once there is true understanding of the fallacy of fallow, the secret of rotation and the meaning of manure then the problem of crops will solve of themselves. This presents several antitheses, being (1) new or old (2) rich or poor; a good or bad (3) primary or secondary; (4) catch crops and staple crops (5) rotated crops and unrotated crops, fruit crops, and root crops. Take the last first as assuredly it is the most important in farmer's cropping plan according to the newest of lights, electrocultural. Roots are rich in organic rays which are mildly ultra-violet and benefit the living tissue in health and disease. Onions, turnips, carrots, beetroot, swedes, radishes are valuable for their organic radiation, as lime etc. for the anti-scorbutic vitaminising properties. There can be no loss but every gain by growing these inter-crops for their interculture and symbiose very well. Exhaustive

tests have shown that a variety of other plants, and generalising all plants, grow very much faster and better and bigger when intercultured with root crop. More than this, many dying plants have been brought to new life and bearing precisely by interculture with root crops and humans in disease were cured.

The remaining antitheses present no difficulty. Suffice it to add that old crops can be renovated, poor crops enriched, bad crops improved, unrotated crops rotated and catch-crops made as paying as staples by the art and practice of Electroculture. There is scarcely a crop within the country and without, which has failed to respond to Electroculture. The E. F. G. A. the wonder child of the D. F. R. O. has issued nearly 150 research bulletins explaining and popularising these methods and results.

The soil and its glory. The soil in plan and profile is a living film of the land. Whoever can read it—and few can—will recall the treasures of geology, botany, chemistry and bacteriology and all the *grenx gebiets* mirrored and showered at their feet. A separate science has sprung up called soil science whose success or failure will be governed by the way in which it takes into account all the component sciences *including electroculture*—that complete the picture. The subject is so vast that it is apt to sublimate into academical longrange research and occupy important shelves in the archives of learned societies and stay there. Soil problems *per contra* have to be faced and met in the field. What is the test of success? Research to be live and justified must be mated with better practice and better practice must yield better results forthwith. In other words research must justify itself in the open air and not in the dusty pigeon holes.

Now take this problem of problems easy enough at first glimpse, but fraught with unending potentialities at the

last. A—acre of wheat crop raised from the best of Punjabs and Pusas is all ups and down. The upper surface is all torn, crumpled green blanket. How to get the best yield? The adjoining one acre field has the same variety of seed growing, but the seed was electrocultured and the top surface is a taut green sheet. Fields of mustard, sugarcane, oats, wheats have all given the same astounding results. If the soil was poor, it was poor for both: if it was unsuited and being *usar* it was not ideal, it was unsuited for both. Everything was the same for both. What has happened is that the seed, after electroculture has succeeded in getting the best out of the soil. That, now is not science but art—making the best use of poor means, not a poor use of the best.

The animal factor on the farm. Whatever the use to which it is destined to be put, poor or best, man alone will not be able to accomplish much unless he is aided by animal power. So the farmer must have his bullocks and his cows; his horses and buffaloes; his goat and sheep; his pigs and poultry; even his dogs and geese. All this livestock is not exactly in the pink of condition; in fact not a single specimen could carry off a single prize at an agricultural show, indeed the certainty is that not a single specimen would be allowed to compete or be accepted at the gate: if at all, they might be turned over to the Veterinary Inspector and their owner to the R. S. P. C. A. Inspector. For the animals have assiduously been neglected and the owner is deserving of dire pains and penalties. But a prosecution, even if legally and technically feasible, will not achieve much. For the delinquent will plead and not without force, that he cannot afford to spend more on his animal. And the court will ^{not} presume as much from the look of either, himself a skeleton and his animal a caricature.

And here, if any where, T R U E comes in for he has a definite mission to fulfil, a hopeful message to convey and a lucid lesson to impart. Taking his stand on the bedrock of experience and research both by the record and conclusion T R U E will advise as follows:—

(1) Don't keep your animals tied in the stuffy byres too late in the day ; imagine how you yourself would feel if confined to bed for those hours. Watch a massive buffalo heavy of eye, dense of brain, weary of flesh, sunk in stupor, so much so that it has even ceased to fret at its post. Release it: away it goes, jumping with joy, careering as swift as its stunted legs can carry it to the familiar pasturage in search of light, life and food.

(2) Don't do violence to the routine of animals. There is much virtue in the proverb—you can lead a horse to the river but you cannot make him drink. The reason is, that he has his hours and he keeps to them. Man, superior man, is the only animal who will drink or even feed at any odd hours and animals, wild or domesticated, have a definite routine which must be respected, they must have their morning feed. That is why the best and quickest *shikar* is obtained in the early small hours of the morning, before sunrise or say between the false dawn and the true one. For then, the wild animals, especially herbivorous, *thar*, *nilgai*, buck, *chital* and the like are so busy browsing the young herbage that they will not start at the stranger's step and easily fall to the stranger's gun. So if you cannot give your animals their early morning feed let them at least fend for themselves which they will do if you let them.

(3) The morning feed should be exposed to the young early morning sun for at least half an hour on cloth spread over a *cot* or a *charpoy*. This will give it ultra-violet radiation and the effect of such radiation on the feed is so

vitaminise it to the same degree of potency as does cod liver oil. This again is no theory but the latest fruit of research.

(4) Use Electrified water for watering your animals. This is obtainable with ease and an enterprising zamindar has converted all his C 3 animals into A 1's merely by giving them nothing else to drink. His cows, calves and buffaloes, invite comparison with the finest specimens in the land.

(5) Soak your *Angocha* in the same electrified water and wipe the eyes of your animals and scrub their throats. To say that you should brush groom all your heads of cattle is to tender a counsel of perfection, which will ever be honoured in the breach and never in the performance. But eyes and throat call for special attention which can always be paid, no matter how busy the owner and numerous his stock. Why the eyes alone ? it may be asked, and why the throat ? The reason lies to hand. The owner has only to look into his own eyes to seek it; and then do unto others, as you would be done by yourself. Now your first impulse on rising is to eliminate the rheums of overnight that have gathered round the corner and the lids and lashes of the eyes, and if that is not done you are fretful, irritable, peevish, out of sorts or worse. The animal needs a similar toilet of the eyes. If the eyes are wiped with a wet cloth, you will be gratefully repaid by the animal in full measure and over measure: it will be sweet of temper, it will never shy, never sick or sorry and above all it will be very pleasing of aspect. If you wish to look well, why should not also your animals. There is a foolish impression about that animals resent if their eyes are handled. The plain truth is that they love it, if properly done. Experience of practically all domestic animals from

elephant to poultry has shown that they appreciate even the high tension spark being delivered to their eyes and it was found that bullocks fretting with pain in the eyes calmed down the moment the spark was delivered straight into their eyes. The impatient critic may exclaim : Are animal eyes ever washed in nature ? The reply is : of course not, but you do not keep your animals as nature does. You domesticate them, you wean them from nature's way without adding any compensatory advantages of your own. Pent in a cattle shed, for the night, the cow's eyes will be found caked and coated with a gummy exudate. Keep her out and the same eyes will be clean as crystal. Try it on yourself. Sleep in and sleep out and note the difference. And the throat is still more important than the eyes, for this throat is the seat of the most important glands of the living system, the thyroid glands. Watch the quadruped ; how it loves to have its throat and dewlaps stroked and licked and tickled. One cow will oblige another as lovingly as does a monkey when extracting bugs or lice from its fellow's heavy coat. Animals which are stable companion do it, bullocks which are yoke fellow do it, buffaloes, too, tethered too long, do it and there is double gain through this process of one hand washing the other as practised by animals. The lickers gets the salt of the sebaceous glands and the licked gets the massage of its thyroids. In actual experience hundreds of abnormal and diseased animals have had their thyroids glands tickled with the electrode and received their tickling without a tremor and ended with a transport of pleasure and indeed such alleviation is most potent in all deficing diseases and domestic animals suffer in that way to the extent of 100%.

(6) Do not overwork your animals. Give them rest, recuperation restores lives, as you would give a fellow human worker. Not an animal owner but will proudly protest

that he never misuses his animals but watch the animal itself. It has got girth-galls: the owner did not even trouble to put the belt right. It has got yoke-galls: The owner let the heavy plough sit anyhow, regardless of weight, balance, or power. It has got a mangy coat, the owner never once cared to clean it, and indeed applied caustics or worse, as counselled by the village quack to keep it in condition with just the opposite results. It is refusing feed and drink, the owner has been neglecting it generously. It will not stand up unless 12 men lift it up bodily from the ground and the experience has shown that all such ailments yield almost instantaneously to Electroculture. The research bulletins issued by E. F. G. A. have proved the efficiency of the new methods. They are simple, they are effective and numberless animals in all stages of incurable complaints have benefited.

(7) *Take proper care of your animals.* Work your animal by day and not by night. If they must draw your vehicles by night over rough roads, kacha or pakka do not omit to carry a light. A sprain received by your pony or bullock in negotiating a bad, hard, deep, rut in a country track,—and country tracks are nothing but ruts and corduroys,—may mean weeks of agony to the animal and hold up your own business. A girthgall will mean insecurity. A yokegall will mean loss of draught and pull. An ulcer will be a source of poison, internal—if the lesion is closed; external, if it is open; injurious in either case. A swelling will be followed by loss of appetite and loss of power. Atrophy of the udder and teats will mean impoverishment of the yield of milk, and probable too of the young, through malnutrition. A bad eye will mean accidents on the road; for the chafing, irritable animal under acute nervous tension may swing round at the hoot

of the motor horn and bump himself or the vehicle it is drawing into the motor car or lorry. A bad digestion may mean a complete breakdown. Give proper feed and drink. See that the *karri* is hacked and cut into *kutti*. Some thoughtless or lazy villagers just throw the uncut stalls of karbi upon their stunted bullocks, which mince just a few and stop, for chewing becomes a business. As to drink see that good clean water is supplied. Remember what you put in, you take out, your milk is water in a double sense. Give your animal a periodical wash, scrub. They deserve it-also you own instinct of self preservation calls for it. If properly cleaned, they keep sweet of temper. So add to your own security. Animals are like babies. They respond to good treatment whole-heartedly. A gigantic elephant, was sparked in the eye as it lay on the ground and it showed its full appreciation of the unusual attention it was receiving by curling its snout into the smallest possible coils and tucking itself in. Poultry to bullocks have taken these electric discharges in the eye with undoubted relief. All vicious animals should be given the softening touch of the electrode.

COMMENT AND CONCLUSION :—*Electroendocrinology and glandular electro-therapy of Animals* is an application of Electroculture, which the orthodox veterinarian may view with consternation and the veterinary scientist with scepticism, but the facts speak for themselves and admit of neither consternation nor scepticism, but wholly and solely recognition to be followed by whatever action that may be possible and as effective as may be feasible, for, after all, the whole object of veterinary measures is to afford relief where it has not hitherto has been found available. In all the foregoing cases, the ordinary methods had either failed or could not be procured or

applied. In sum, the failure had been very patent and painful, the animal concerned having developed atrocious blisters on the bruised skin. In this case lotion with Electrified Water, instead of the burning alkali, proved a godsend. Granulation and healing processes set up and the animal improved very rapidly. Efficacy of Electrified Water, which is at once emollient, disinfectant, antiseptic and deodoriser, cannot be sufficiently praised, A pie-dog emerging from a dog-fight with a half torn and bleeding ear minus the skin over a good part of it was writhing with agony and painting every bush, shrub and scrub red with clotted blood. He was caught with difficulty and the ear washed with Electrified Water. The result was that he got up mild as a lamb and lay down at the President's feet. This result was exhilarating but not unexpected, for in accordance with the theory of *Agaskarisation*, the effects of Electrified Water must be instantaneous. So was this, so was that of conjunctivitis in the elephant and so were the numerous cases, in which Electrified Water was given to animals. The uninformed may ask: what about the effect of Electrified Water internally not externally? The answer as given by repeated tests and *not* text—books, which have nothing to say, is that the two cases are very much alike. This Electrified Water with its column of film provides the electric field for all the processes of nature to go on under more normal and accelerated conditions of health. Therefore, it is reasonable to expect metabolism to improve, nervous tension to be stabilised, functional equipoise to be regained, and in short vital processes to be fostered. Hence it is that sickly animals have been cured with a drink of Electrified Water, hence also the subterfuge through which the President has been giving unhealthy animals Electrified Water *ad lib.*

The curious may enquire : what about insulation in electric sleep, which is such a feature in human therapy? The answer is that the animal standing on hoofs is already partially insulated and in any case it could be easy to set him up on a wooden deal-board placed over strips of rubber. Next, it may be asked : what about glandular electro-therapy ? This itself is totally new and even unknown in the therapy of humans, leave aside animals, but our results clearly show how effectively it can be used without waiting for the backward humans to make progress in this respect. Normally, the orthodox radiologist in hospital or clinic will sent his patient anyhow and begiu to treat the affected part under severe nervous strain straightaway. There Electro-culturists part company abruptly, for the electroculturist will not treat his patient, animal or human, as a live wire, but as a collector, receiver, retainer and replenisher of electric energy. So he is placed on an insulated floor or stand. Then, the next point of departure is that the whole nervous system through the spinal cord and the different glands, thymus, thyroid, pineal, etc.. are first stimulated with the high tension and high frequency discharge. Thereafter the part affected is attacked with remarkable and astonishing success from elephant to poultry. The former had never before opened his eyes so wide as he did under this treatment. The latter had 20 days been without vision and yet it opened its eyes as if under protest and began to peck at the electrode. In every case, whichever animal was treated, the treatment came as a benefit and not as an injury, for the animal concerned actually enjoyed it and showed its satisfaction, the elephant by curling its trunk into a coil and lying quiet as a baby and the other animals with a similar response.

All this is not to say that the technique is simple and the application plain-sailing. Cow with atrophy of three out

of four udders was in an extremely damaged nervous condition and would not let itself be touched by the electrode at the glands. The hidebound practitioner would have insisted on having his way, but the Electroculturist who treats his animals like humans and does not manhandle and truss them, went on to other methods of treatment. It is indeed the characteristic of all methods that *no animal was subjected to any physical restraint*. On the contrary, the beneficial effect of high tension high frequency discharge at the right nerve area was a guarantee that the animal would not misbehave or kick out. The risk had all the same to be run and while doing so the President envied the agility of the Rugby ballplacer. Finally, it may be asked : *In which cases is this new therapy indicated ?* The answer is: *In every possible case of Animal Husbandry.*

1. **EVERY ANIMAL** should be given feed, exposed over a cloth spread on a cot put on insulators to the early morning sun for half an hour. This Ultra-violet rayed feed will work wonders with its physique and stamina.

2. **EVERY ANIMAL** should be given Electrified Water to drink.

3. **EVERY ANIMAL** should have its sores, ulcers, galls, sprains, and the like, washed with Electrified Water.

4. **EVERY ANIMAL** suffering from any disease short of such requiring surgical aid should be given glandular therapy.

5. **VICIOUS ANIMALS** should be given the softening touch of the electrode. It is easier to tame a giant with the touch of this magic wand than to let him use his giant strength on you. Vice, ferocity, temper in animals is largely an appeal of nervous imbalance, which the high tension and high frequency electrode will bring back to

normalcy. Ultimately, every owner of animals and, especially, diseased animals should realise that the animal is his friend, but in trying quack cures, he is treating him worse than an enemy.

Alongside the survey of human suffering in the Rural Area, a survey of animal suffering was also made and with equally significant results, and the same Electroclinic sufficed for the relief of both. For, the villagers who brought an ailing relation also brought along an ailing animal, from elephant to poultry. The same and similar methods sufficed for both, the treatment took a very little time; animals were handled first; relief was rapid and spectacular—so for these reasons the mobile Electroclinic for veterinary work became very popular with animal sufferers.

A rapid survey of animal sufferers shows—2% elephants; 36% horses and mares; 6% camels; 6% pet dogs; 6% cows; 12% poultry; 20% bullocks; 42% buffaloes; 2% goats.

The sufferings are legion but the simple villager relying on local experience and home remedies has grouped according to the obvious symptoms under loss of appetite, refusal to take nourishment, feed or water or both with concomitant swelling of the belly and other parts which may be sympathetically affected.

The fourth obvious results of such internal derangement are—the animal is sick and sorry, apathetic, lifeless, shaky in the joints etc.

2. Eye trouble with conjunctival or other discharge, cataract, inflammation etc.

3. Inflammation, swelling, hardening, tumification, ulceration of other parts with other ancillary affection.

4. Pains, aches, sprains, strains in bone, muscle, nerve, tendon.

5. Special complaints :—retention of the milk, atrophy of the udder, dislocation, white diarrhoea, paralysis. *

The incidence of suffering is as follows:—

Kind of disease.	Bullock	Buffaloe.	Cow.	Horse	Mare	Camel	Elephants	Goat.	Dog	Hen.	Total.
Lame.	12	6	0	4	1	1	0	0	0	1	25
Sore (Phoora)	5	3	1	2	0	1	0	0	0	0	12
Eye disease.	2	4	0	0	0	0	1	0	2	2	11
Itch.	0	1	0	0	2	0	0	0	0	0	3
Weakness.	1	2	1	4	0	1	0	0	0	0	9
Refusing to take feed	22	14	7	0	0	0	0	2	0	1	46
Hurt and pain.	18	6	0	9	10	1	0	0	0	2	46
No milk.	0	1	0	0	0	0	0	0	0	0	1
Ear disease.	0	1	0	0	0	0	0	0	0	0	1
Poisonous.	0	0	1	0	0	0	0	0	0	0	1
Gilti on neck.	0	0	0	0	1	0	0	0	0	0	1
Paralysis.	0	1	0	0	0	0	0	0	0	1	2
TOTAL.	60	39	10	19	14	4	1	2	2	7	158
%	38%	25%	7%	12%	9%	3%	1%	1%	1%	4%	

The technique is followed by his veterinary Electro-clinic has been as follows:—

Animals in health and disease are treated in order to increase their efficiency or give them relief if unfit. The methods are:—

1. Making them drink Electrified Water by showing

them a handful of grain in a small *Nand* and then submerging it in a lot of Electrified Water so that they drink up all the water in search of grain. This water is poured in from a side and level kept just a little but not too high. *

2. Electrified feed shown by exposing the feed to the morning sun on a dry cloth on a cot or dry straw.

3. Electric activation of the glands, specially thyroid.

4. Electric massage of injured part and

5. Washing of sores, eyes, ect. with Electrified Water.

1. As to the relief afforded, the manner of relief and its efficiency is in the same order as the complaints noted above. To particularise, stomach troubles invariably yield to Electrified Water. Electrified feed gives strength and colour. Activation of the thyroid is very effective and taken with the greatest satisfaction of the animal sufferers.

2. Eye troubles yield spontaneously to washing with electrified water with direct sparking of the eye. The elephant is a classic instance of the former, the fighting cock of the latter. Cows, bullocks, buffaloes take eye treatment with greater relief. Thyroid activation also helps.

3. Inflammation, swellings, ulcers are controlled by Electrified Water wash and thyroid activation. Often yoke galls to right and left have been made to collapse by activating the nearest thyroids, one after the other.

4. Pain, aches, sprain, etc are notably relieved by the high tension spark playing on the affected part after activation of the thyroids. A spectacular case is furnished by a bullock with a foot so badly injured that it could only go on three, getting prompt relief from the electrode in the injured foot which could be lifted and bent up by the $\frac{1}{2}$ inch glass tube of the electrode alone. Crowds gape with amazement at the sight of the bullock reposing a heavy leg on that flashing wand.

5. The special cases have had special results.

Attention of the milk is removed by Electrified water and feed. But it is impossible to touch the cow with the electrode at the atrophied udder.

It jumps about and nothing can tame it. Force or duress is never used, so *kindness first* is the motto.

Survey of animal suffering and suffers.

Two standards, and therefore two measures of animal suffering, are possible, and no third. Either the technical terms of the doctrinaire veterinarian are to be used or the simple homely lingo of the villager who is an authoritarian and a veteran. The veterinarians' dog-Latin and low Greek, which is worse than Shakspeare's little Latin and less Greek, will be lost on the unlearned and useless to the learned. Preference must therefore be given to the authoritarian who in his simple dialect knows exactly what he is talking about and where the shoe pinches. In this reckoning and procedure animal troubles as propounded and expounded by the harassed observant village owner fall under 12 salient heads.

Nomenclature (1) Lame—This requires no thought and can cause no error in its detection. If an animal has gone lame, whatever the cause—fall, slip, slide, maiming, atrophy or whatever the origin of the injury, visible at the surface or seated deep—the owner sees and knows that the animal has gone lame and brings the sufferer to the veterinary Electroclinic.

(2) *Sores* :—These are running ulcers with obvious ulceration; the suppuration is clearly visible and calls for relief.

(3) *Eye disease* :—Eye trouble may be a symptom of many diseases, not one, although in the unitary conception of disease *a la Macdonagh* the use of the term *eye disease* is entirely unjustified, whatever the cause of the trouble, pain, inflammation, redness, dirt, infection, cataract, conjuncti-

vitis, night blindness due to a particular defective feed etc. Eyes, which are not functioning normally, are most easily spotted and form subjects for relief.

(4) *Itch*:—This needs no comment. This is a complicated affection of the skin; the coat or hair begins to fall off patchwise, mange spreads, scabs may form and there may a transition into No. (2) sores.

(5) *Weakness*:—This is the most irritating form of animal disease, both to the animal and to its owner. Apparently without rhyme or reason, the animal loses its energy, its pull on the yoke, its vitality, its stamina, gets tired at the slightest exertion: all its reserve power seems to have evaporated. It takes its due feed and the feed is ejected as faeces without doing any good.

(6) *Off feed*:—There is an aggravation of and next step to no. (5). The animal goes off feed, is sick and sorry, cannot be coaxed into taking any nourishment whatever whether in the roughage or concentrate.

(7) *Hurt and pain*:—This needs no explanation. Beating, collision, fall, or any other cause may be responsible for hurt and pain and functional imbalance may follow entailing lameness.

(8) *Illness*:—Greater tragedy on a dairy farm—and every responsible villager has a dairy farm with dairy herd of sorts—cannot be than this that the milch animals yield no milk; either it has not formed in the udder or the teats or are atrophied whatever else the cause.

(9) *Ear disease*:—See eye disease and mutate where necessary.

(10) *Poisons*:—This in the villager's expert knowledge implies poisoning due to causes which lie to hand.

(11) *Tumours on the neck*:—These may be and usually are yoke-galls due to defective pull or loading.

(12) *Paralysis*:—This is an aggravated form of No. 1.

Incidence. As is easily intelligible complaints (6) and (7), off-feed and hurt and pain, show the greatest incidence being 28°/o each. This is in either case, a gross underestimate, for the dumb beast never comes to word and its language of signs including kicks is lost on the owner until matters have gone very far.

Next comes lameness, incapacitation, disability to use a limb which is incident to the extent of 16°/o. Here, too, diagnosis is very belated and only comes to notice when the trouble is sufficiently aggravated.

Third place is taken by *eye disease* with incidence of 7% Here again bad chronic or acute cases come under observation and the figure is an under-estimate, in view of the appalling insanitation of the byre, pen, stall, coop, fold or tethering ground.

Fourth place but very close to third with 6°/o is filled by weakness. Strictly speaking, the vast majority of animals are constitutionally weak and 100% would be a proper figure. but the villager bothers about weakness only when the animal definitely refuses to work or breaks down and it is these serious cases which have come under observation and record.

Fifth place goes to *itch* with 2%, the same remark applies.

The remaining five diseases are all bracketed together with 1% which is a rough estimate.

Distribution of sufferers. The domestic animals which have come under review are—bullocks, buffaloes, cows, horses, mares, camels, elephants, goats, dogs and poultry. Of the total number of animals which have come for relief the following is the percentual distribution.

1. *Bullocks.* 38%. The bullock is the most valuable animal in the villager's livestock, if he is ill, then the plough, cart, threshing floor harvesting, marketing,

journeying for business or pleasure, are all out of action. So no wonder, then, that the greatest care by crude standards prevailing, is taken of the bullock, but even that optional care is not good enough for patently no single bullock is in fit state or up to weight and power.

2. *Buffaloes*. 25%. This hardy beast, dull of eye and dense of brain, has most tractive power and milk yield and is most neglected. In fact some unfeeling villagers are tempted to class them among the non-sentient beings of God's creation, so much are they overloaded and so little are they fed. So 25% is clearly an under-estimate and represents those which are on the breaking point.

3. *Horses*. 12%. An idle horse is a horrid sight and an ailing horse has got to be kept idle until quite fit. The horse is used on the road and not on the field and then it is heavily overworked so that the *Ekka* can compete even with the motor lorry. It is a curious but correct observation. If the Railway suffers from the lorry, the lorry suffers from the *Ekka*. It is a common sight on the uncontrolled rural roads to see a diminutive *Ekka* carrying as many as eight passengers, all crowded, couched, cowering and huddled together from the foot-board to the shaft on either side and the skinny legs of the caricature of a pony actually arching in its efforts to pull the weight and yet the figure of 12 contains two errors: one due to over-estimating and the other to under-estimating and the two wash out in the sum. For the *Ekka* pony is most precious as it brings money, but the villager's pony used for riding is not always in use or can easily be spared from use. The troubles of the first will be attended to promptly, those of the second tardily.

4. *Mares*, 9%—The same remarks as above.

5. *Cows*, The cow has a much easier lot than the bullock. Her only job is to yield milk and feed *ad lib* on the fat

pastures. But actually she is neglected very badly and suffers in consequence.

6. *Poultry*, 4%. This is very low due to the fact that poultry-breeding is still in its infancy and diseases of poultry are not properly diagnosed or understood.

7. *Camels* 3%. This means that camels are fewer in number, not that they are immune from disease.

8. *Dog*, 1%. Who cares for the village dog, the pi-dog, a veteran of many breeds and of no breed which has evolved its immunity to perfection? Rated, scolded, beaten, kicked, he gets throughout his long, mangy life never a kind word, look, drink, bite or any sign of human affection or pity; and yet you will see him attach himself to certain households in his beat, defend that beat against all comers, human or canine, follow the householder's cart on the road and defend it on the march, and show more attention and symbolise Christian love better than ever does the proverbial polican. So 1 % is very gross underestimate.

9. *Goat* 1% | These figure are correct as these
10. *Elephant* 1% | animals cannot be neglected.

The administration of relief. It goes without saying that the villager has not been able to provide any relief for his suffering animals, otherwise he would not be bringing them to the Electroclinic. He has certainly tried the crude village remedies, but in several instances the remedy has proved worse than the disease. This aggravation has been caused by the acids and alkalis administered and often the coat has begun to tear and fall off. Relief afforded by the Electroclinic has therefore been all the more prompt and effective. The methodology, modalities and dosages have been as follows:—

I. *Electrified drink.* Electrified water was given in an earthen pan with a sprinkling of corn, below.

While the animal was trying to get at the latter water was poured in from a side to keep the corn submerged untill all the dose of water—the maximum—was taken.

II. *Electrified feed.* The morning feed was exposed on a cloth spread over a *charpai* to the early rays of the young morning sun rich in ultra violet radiation. This, then, was given to the animals.

III. *Electric wash.* Paining parts, ulcerating parts, diseased parts were washed repeatedly with electrified water with a cotton wool swab.

IV. *Electric activation* of the thyroid and hormonal glands. All the above are generally indicated in all complaints. For lameness IV of the affected parts is specially indicated. For sores and ulcers III is specially indicated. For disease of the eyes and ears III is indicated.

For itch III is specially indicated. For weakness and refusal to take nourishment all the above especially I is specially indicated. For hurt and pain IV is specially indicated. For milklessness I and II are specially indicated. For poisons I is specially indicated. For tumours III specially indicated. For paralysis III and IV are specially indicated. But let it be repeated, the whole gamut must be gone through before the specially Indicated treatment is administered.

The **unitary** farm by itself has no meaning and does not exist. The truth is that farming like any other industry is integrated both horizontally and vertically. There is the cereal farm, vegetable farm, fodder farm, grass farm and the like, then dairy farm, horse farm, pig farm, poultry farm, cattle farm, buffalo farm, camel farm, donkey farm and so on. The man behind the plough needs strong sturdy bullocks ; consequently he must grow good fodder crops and rotate them with his own cash and grain crops. *Hutchinson*

husbandry, *animal* husbandry and *plant* husbandry have all to go together, and even so, such a complicated farm is not elaborate enough for modern requirements, because farming does not pay. The reason is that there are not enough subsidiary occupations along with farming ; or those associated with it are not so to a sufficiently paying extent, for instance more fruit has to be grown and fruit-farming put on a more profitable basis. The profit will be not only in the shape of money from the market but also food for home use. Similarly, new occupations such as poultry farming, bee farming, silk farming, can and should be taken up. The Electroculture Association has amply shown that thanks to Electroculture goat and poultry farming can be improved out of recognition. Animal husbandry can be put on a more profitable basis. Mulberry can be grown like *baramasi* all the year round and fruit blossom, peach, apple, pear, can be obtained for bees. As is well-known, the blossom best appreciated by the honey bee and yielding the best honey is apple. Hence apple blossom can be made available in season and out of season by simply electroculturing the plants.

The Human factor in the farm. The great reproach to the farmer is that he does not march with the times ; he is always too late and out of date with his methods, his practice, his produce and his improvements. His farm may be simple or multiple or composite or run by himself, ie., sown, manured, hoed, weeded, cropped, harvested by his family or by co-sharers or contractors. It may be on the *batai* or *thekra* or proprietary or sub-proprietary or any other system ; it may be fragmented and frittered into bits or one homogenous block. It may be grain-rented, cash rented or labour rented or under-rented or over-rented—the fact remains that it is not a paying proposition.

How to make it a source of profit instead of loss, of

pleasure instead of worry, of enjoyment instead of mortification that is where TRUE comes in. And it is essential to correct the defects in the human factor before any improvement can be expected. Obviously, to begin with, the human element must be improved on the lines laid down in the earlier Sections on **hearth and home**—given better health, better prospects, more leisure, the farmer will have the means and the time for improving his farm. Special attention will have to be focussed on the following improvements.

(1) *Improvement of self* :—Has he got the right attitude to the task ? Is his primary concern to extract more profit from his farm or is he more anxious to do his neighbour down or to score off his *zamindar* or to carry on a feud against rival cultivators generally some such evil ambition is responsible for the great majority of farms falling into wrong hands through contract, mortgage and even sale. Indeed it is notorious among the richest landlords facetiously more than effectively designated barons that litigation is their natural industry and absorbs all their cash and credit when they attempt to dispose of rival states through the hazards of a law court by setting up or buttressing claims of adventurers. Hence the farmer must look wholeheartedly to his farm. (2) He must specialise in personal cultivation. It is unthinkable that a farmer should farm his farm out on whatever system to others. The anomaly is as grotesque as if a good housewife were to give a contract of her meals to her cook instead of paying for them herself item by item. Moreover, the farmer who has his personal cultivation or *khud-kasht* will grow his own fruit and vegetable and flowers and will be able to effect his improvements all round. (3) Distant cultivation should be managed by co-partnership. Co-operation as understood and practised and enjoyed

has somehow omitted the benefits or practice of good partnership. The nucleus for this system is available in the form of *betai*. It enables the more distant and difficult lands to be brought and kept under plough and turned to profit when the farmer himself cannot attend to them (4) The enterprising farmer will have plenty of opportunity of developing uncultured areas in his own or other village and bringing them under plough. This again may be done singly or in good partnership. A nucleus for the system exists in the so-called *pahikasht* and a good farmer with a good associate will be able to develop outlying areas with considerable advantage. (5) The dignity of labour has to be fully understood and associated not only by precept but by performance. There are certain so-called high castes and farmers of the high castes who consider it beneath their dignity to stand behind a plough or drive the bullock. Occasionally high castelandlords have attended agricultural shows for giving demonstrations not of their ploughmanship but of their readiness to handle a plough at all. Such good examples have not been lost on their brotherhood, but the greatest stimulus to high caste labour has been given by the hard times that have followed in the last few years. The anamoloy of *Raxil* and *Sharif* or the dignified class which will not labour and undignified, servile classes which labour however still persists and at partition it is an unholy wrangle between rival cosharers to secure as many of the *Raxils* and as few of the *Sharifs* among their tenantry as possible. More grotesque, backward and ignorant a Zamidar could not be; for he is thereby putting a premium on sweated, under-paid *begar* bound labour and a discount on the more enlightened prosperous and self-respecting farmer and frustrating the whole movement

towarrds Rural Uplift by objecting to the uplifted. This short-sighted policy will defeat itself. It is only a matter of time and it is up to T R U E to take time by the forelock and force a decision and defeat. Let there be no misunderstanding: all castes are in the melting pot; the so-called *Raxil* are becoming *Sharif* through the dignity of labour and the so-called *Sharif* are becoming *Raxil* through their squalour and penury just because of their false notion of their indignity of labour.

The Woman Farmer introduces problems of a peculiar type: and these are further complicated where out of shabby gentility or false vanity or both she affects *purdah*—an institution foreign to the Rural Area. The woman farmer will engage a sub-tenant or a contractor or co-sharer in a word, purchase the labour as well as the supervision of another for produce or money or both. Incidentally she purchases a lot more trouble than she is aware of and it is no easy question to say that a single satisfied woman farmer is hard to find. Viewed differently and put otherwise: farmers constitutionally are very difficult, dissatisfied disgruntled folks but the female of the species, when she withdraws into her *kemenata*, unlike the busy bee in her comb, for idling and not work, is still more dissatisfied, even disgusted, for apart from the vagaries of the wind and weather, she has also to contend with the trickeries of the male employees who are prone to take undue advantage of her enforced seclusion. She is a centre of intrigue: a habituee of the law court: meat for gossip; target for abuse; danger to the village peace. For she is more sinned against than sinning, unless ignorance and superstition are sins and she is beset with both in overmeasure, in which case she is more sinning than sinned against. If she has relations, they are sure to attack her management as wasteful, her living as immoral, her very being as objectionable and, drag her

into court to be declared unfit to manage her property and ousted of possession. If she has a manager, as she needs must being in *purdah*, that will expose her to special attack: her reputation will suffer in either case, should she stick to the old man or engage a new one: in the former she will be called his paramour in the latter man-mad. As such a woman farm, once pathetically observed when efforts were being made amicably to settle her grievances with her kinsmen who objected to her manager and servants in fact, the whole staff, "Whatever I do, whoever I engage, I will become suspect in their eyes !" But the prospect is not without redeeming features. A harassed woman so rightly secures more sympathy from the executives, but her salvation lies finally in her own hands or better in her own feet she must emerge from the *purdah*, cast off that excrescence, resume her true place in rural society. That she should and must, for being a widow she discarded all vanity, jewellery, finery and woman's, crowning glory, hair. And yet she clings to the *purdah* which in her case is an unwanted and stupid survival from her marriage days. As widow, she will command more respect in public and incidentally manage her farm more profitably.

The Human Surplus. There are notable steps and gradations along which labour has proceeded from the village and overspread the country. The simplest case of the farmer farming for himself and utilising all the available labour is now a case of perfection and ideal. As it happens, more farm labour is available thanks to the inefficient methods in vogue than can be absorbed. The farmer takes up service and from service to servitude is an easy glide. The following exposition will show the salient features :—

1. *Service.* The farmer who cannot farm himself takes up service on the home farm; on the neighbour's farm

on his landlord's farm, or otherwise. He may get wages in the shape of cash or grain or both or food or shelter or any two or three or all. This service is natural and reasonable and helps to balance the demand and supply of labour.

2. *Servitude*. Where supply overtakes and exceeds the demands and labour is a glut on the market, then the element of servitude comes in. This term is taken in a strictly economic sense. The fruit labourer or the servant is working not for a free and fair wage voluntarily but for a fixed unfair wage under the heel of necessity, for as he has not to make the two ends meet and keep body and bones together. So he proceeds to the nearest potential employer of labour in the city and there swells the searchers of casual labour to begin with than of seasonal labour and is most of the time queuing up at the local labour exchange or whatever word, square, lane, enclosure or other place does duty for that clearing house of labour. In this case let there be no misunderstanding when unusual terms are used for Indian conditions. They have to be modified for India. Those in the shift of labor from the vantage to the town, the latter has not got registry or labour exchange. What happens is that any big factory or establishment where more than a few labourers are employed or where drawn from villages becomes a magnet to the ideal, workless of those from villages and those undignified adventurers come to their relatives or fellow villagers stay there awhile and look round for the jobs which means unaffected and also in fact that they are hanging about their admittance gates of that establishment. This is therefore a small labour exchange and such exchanges are set up all over the town.

The next step is the indenture system. Obviously a newly or seasonal labourer will prefer some fixity of employment and agree to go from far afield if he can find emp-

loyment for a number of years but in terms. On the other hand labour is wanted in distant centres of industry where locally it is not fit or available and it is therefore in the interest of both the employer and the employed to have a definite basis for employment. In this way the so-called garden coolies are recorded by the *jamadar* and *thekeedar*. They are settled in *bastis* or settlements or colonies or whatever the term locally affected for that purpose. The *jamadar* or recruiting agent or the *thekeedar* assume very great importance and as their methods may savour of the prize gang and disillusionment may follow in cases of villagers who entertain high hopes the protector follows in their wake. thereafter the threefold movements of the migrants, emigrants, and immigrants settle in one feature which distinguishes the 19th from the 20th especially the post war 20th century is just its attitude to these labour movements. When the 19th century encouraged them and did considerable pioneer work in industry with their help on unfamiliar scenes, the 20th animated by the peculiar spirit of nationalism is tending to keep all its labour population at home. Unemployment may go up by leaps and bounds in these days it is nowhere proposed that the unemployed should be dumped down in a distant country whether in a colony or on in factory or in a farm. On the other hand, efforts are made to encourage colonies as near as possible, to the very homes of the unemployed in order to find them work, In any case the home surplus is a very important element in the human factory to be reckoned with. It shall be the chief function of the T.R.U.E. that that unwanted surplus is fitted into the village economy through the development of subsidiary occupations and the exploitation of virgin or backward areas.

The Mechanical factor on the farm

To modify a doggerel :

When Adam delved and Eve span.

Was there a mechanician ?

Yes, not one but two. Adam delved with a spade and eve had a distaff. So the mechanical factor on the farm is older than the hills and older than the deluge and the various applications and appliances continue antediluvian. The *plough* is one such. Amid the clash of ideals the ideal plough has yet to evolve and finality is yet to seek. The truth is that all requirements cannot be satisfied by one and the same design and make. What are those requirements ? and what the criteria ?

I. It must be easily designed, constructed on the spot, with timber and talents available on the spot, for use and repair on the spot.

II. It must cost very little in time, money and trouble.

III. It must be fool-proof.

IV. Its performance must be high and with a high degree of efficiency to meet the full gamut of ploughing needs. Deep ploughing, light ploughing, medium ploughing turning up a variety of sods and meeting a diversity of conditions in response to a multiplicity of exigencies.

V. It should be a plough and not a white elephant.

What is the postulate of theory and what the verdict of experience ? Theory postulates and premises that an iron plough-share should be better for cutting, driving and wear than a wooden one, but it is a sad reflection on the theoretically most perfect plough that it has not succeeded in driving its woden *Desi* prototype out of farm use. For all exhibitions, demonstrations, tests and contests, shows and prizes notwithstanding, the humble village plough, the most antique in the world, clings stubbornly to its pre-eminence. The figures of replacement of the *desi* with improved types named auspiciously after governors or deities are not exactly encouraging. In fact the

disinclination to accept improved models reached the limit in the Mainpuri Devi Fair Rural Uplift Exhibition, when a prize-winner perversely refused to accept improved implements *and demanded a monetary prize instead. Obviously, he had to go without either.

But this prize-winner by his attitude and perversity has thrown a spotlight on the tragi-comedy of the situation. Better implements are wanted, but not welcomed. A very enlightened zamindar believing in petrol-tractors as against soil scratchers invested in a certain number only to find that they were practically as good as white elephants. Whoever may have been to blame,—the model or the maker or the mechanic or the master—probably all of them, the fact remains that those mechanical implements demonstrate, in a mode that was scarcely foreseen, the impolicy of mechanising a farm. A Rural Board feeling it should do its bit to relieve the agricultural depression agreed to invest in a well-known tractor which was being overwhelmed with publicity in the undiscerning press. But enquiry from the parent manufactory elicited the response that models for tropical markets had not yet been evolved. To take a still more telling example—a brandnew petrol-driven farming machine exhibited at a recent agricultural show abroad claimed to knead the soil as a baker his dough; inspection on the spot revealed it a marvel of mechanical perfection; a thing of beauty. and a joy for ever. The price ranged between a lac and a half. But the admiring beholder was informed that an eminent Indian potentate had already imported such a wonder-working machine. As it happens, back in Bombay that admiring beholder casually ran into the *Dewan* of the *Darbar* of that eminent Indian potentate, who has incidentally enriched the field of sports with many cups, saucers and plates. But his effort to enrich the field of agriculture was not so successful. Asked how

the wonderful machine was operating, the omnipotent omniscient Diwan naively ejaculated—Never heard of it : and to think that a machine which should have made history was rusting somewhere in disuse—out of sight, out of mind ! What is the reason ?

Examples abound high and low. Take a familiar kolhu an iron one costs 450/- and becomes scrapworthy in two years; an ancient wooden one costs 10/- and serves faithfully for years 2 and 20. What is the explanation ?

What exactly is the shortening of life of a machine, however modified and strengthened for India ? Take a garden-mower. It is no exaggeration to assert that careless handling by inefficient, unwilling hands reduces its life to one-half.

So we come back to the main desiderata noted regarding the plough which are also typical for all mechanical implements essential for this mechanisation of a farm.

Mechanisation is an admirable ideal but as a practical proposition it is not to be placed on the order of the day, for the day or the morrow. The obstacles are—lack of specialised talent, lack of funds, lack of intelligence, lack of interest and lack of scope.

The villager will not take to machinery kindly. He has not got the knack for it. He has no machanical mind. He has not the necessary talent. He is no good at imitation and still less at creation : so he is doubly doomed, if not damned. It is said of the Japanese, that they are faithful copyists and certainly there is nothing left Western civilisation to brag of, which *Ano Kanda San* in a Nippon-easy way will not imitate and turn out wholesale from genuine tires to real Scotch, so vitalizing with this infinite capacity for taking pains the home truth : what one man has invented another can discover. But the Indian villager will fight shy of machinery, leave aside studying

it, copying it. He will show no interest and without interest there can be no intelligence and if pressed to encourage and train either he will turn his back on all machinery and argue the need of it on his small, non-descript, badly fragmented holding.

The fact is that compared with the Westerner, the Indian's inventive genius is *non est* or, what is worse, badly atrophied. Necessity is the mother of invention, but in India it has remained resolutely sterile. Examples spring to notice. Where else, except in India, with the fierce heat and cold, is the need strongest for big, broad-brimmed hats and yet the turban, which consumes material enough for a whole suiting, will afford protection against neither. Indeed, it will add to the load on the head, sit light and expose the forehead and face to all the inclemency of the weather and yet, within the same parallels in the Antipodes the sombrero sits on the heads like a cart-wheel on its hub and rivals it in size. From head to foot is the same story of missing inventions. The Indian will go down on his haunches and sweep the ground with a diminutive broom, while the European confrere will arm himself standing with a three yard stick on broomstick, with a very much better range, sweep and efficiency, or again he will attend to running machinery with complicated belting, shafting, piping in flowing *dhoti*, quite oblivious of the danger to life and limb, should an extrd bulging fold adhere to a moving part. Or, again, even with the best training, a mechanic will not observe the same *veto*s, *tabus* prejudices as does a European mechanic. If cleaning out a piece of machinery with a swab, he will be constantly dropping the swab about and on to the ground, so adding to the dirt instead of removing dirt, but adding dirt to dirt is not the way to remove dirt, and if the machinery gets complicated and calls for intelligence in use, the Indian villager will feel most unhappy. A village

constable serving as a guard once offered to run a distance of half a mile with a message instead of speaking it into the telephone and so putting it through, saying "my lege are just as quick". With such unpromising *personnel* and *materiel* the prospects of mechanisation must however not be rated bright. But progress has to be made from another end. The machinery concerned has also to be adequately modified for India. No enquiry into the implications and complications of this process is called for. Research has to be prosecuted in real earnest, until the ideal machinery is made available.

If the ideal plough has yet to be evolved, so also the ideal sugarcane crusher, the next most useful article. So much uncertainty still obtains that it cannot be said whether the crusher should have 2 rollers or 3, how the roller should be grooved or ribbed. Each machine marketed has its own advantage and disadvantages and the villager can make no choice. He has no experience.

It would be helpful to draw upon the experience of other lands. Russia is said to have made much progress and Russian mechanisation has figured very prominently in propaganda. Thus the Tractor has indeed become a symbol and a cult. "*The Tractor comes to the village*" is a theme which speeches, writings, films have invested with unusual romance. But the life of a tractor is reckoned not to exceed six months, whatever the contributory causes, want of experience, skill, training, in the rural personnel or defects of design, construction, execution in the materiel. In any case Russia is a land apart, and the life and labour of a Russian tractor will not help to solve the Indian problem. But in Algeria, conditions are not unlike those obtaining in many parts of India. Thus in Algeria, steam tackle was given up early in the day as a failure, because the well-water locally obtainable, wherever it was tried, was brackish and ruined

the boilers and good fuel was expensive. Then they passed on from mechanisation to the next obvious step—Electrification and therewith marched from success to success, for thanks to electric ploughing with portable gear excellent wine grapes have been raised where nothing grew on that *Usar* before.

Electric ploughing is a very fascinating theme and a perfectly practical business proposition. It is cleaner, easier, simpler, cheaper and when the rural area is covered with a net-work of high tension cables the necessary step-down transformers housed in a travelling cabin with the electric plough running as tender are all that an enterprising zamindar needs to convert the waste spaces of his zamindari into wealth. And Rural electrification and Electroculture will go hand to hand.

The Biological Factor on the Farm. There are two most prominent and least noticed biological factors on the farm, seed and manure. The villagers makes a mess of both in every season.

Take seed first. What does he know or care about seed ? Has he ever *cared to separate the seed from the coat* ? He has invariably taken it for granted like good digestion or it is only when he is face to face with some agricultural calamity that he has scrutinised that undelivered of misery. If it crumbles to black powder under his finger and thumb—it means smut, an infection without cure. If it is a pin-head, it means disease which means no harvest. In either case the disgruntled *Kisan* will gather a few sheaves of the offending plants, tramp to the nearest revenue authority and clamour for relief. There-with his interest in his seed is exhausted.

But seed, as a biological specimen calls for very serious consideration. There is the *Desi* seed, neglected and decried and yet holding its own. There is the imported seed believed

to be a good yieder but not sfficiently popular. There is the improved seed which publicity is tring its hardest to push into popular favour. There is the disease-resistant seed which would be very welcome if it comes up to expectation. Then the specially *valuable* seed varieties, early grown seed for early crops and late growing seeds for late crops born more paying than the normal crop in season. Then the best seed but which is it? and according to which standard? and then the seed catagories which need intelligence to use them; the yarovised seed which can work wonders and finally the Electrocultured seed which is a wonder itself.

In all the confusion and babel of divided counsel, for after all nurserymen and stockists and seed storekeepers are all out to *boost* their wares, three points *a priori* have to be kept in mind, as the cardinal points in the history of the seed. Firstly the *Desi* seed and its families, secondly the plant breeder's seed and thirdly the Electroculturists seed.

The *Desi* seed has obvious advantages and less obvious disadvantages. It is easily available but liable to pest and disease and yields a poor crop. It is cheap but has very uncertain gernination and growth. The whole field presents a most depicable appearance in const quence of the poor viatility of the *Desi* seed. It is popular. How to replace it or improve it? The plant-breeder will try to drive it out of the field, the Electroculture will keep it and improve it.

Look aside a while from the virtues or vices of the seed and examine the plant breeder himself, his lechiyen, his hopes, his achievement. Now plant genetics is a very young fascinating science and the plant breeder has endeavoured to make an art and a craft of it. With meticulous care he evolves hybrids, strains crosings in the hope of "Promoting" certain selected properties and characters "inhibiting the useless ones", prohibiting the dangerous ones and thereby

creating an optimal type, proof to disease, resistant to weather, maturing early or late, developing its own defences and proving the plant breeder's theory and practice.

Judge of promise by performance, of methods by achievement, of final values by positive results; certain outstanding wheats evolved by the labour of a lifetime have won their ground and stood their ground in agriculture research. They may be seen growing in India; in Poland; but watch them growing in an *Usar* farm, the crop is healthy but very uneven. In a hurry one might ascribe the torn ragged surface of the wheat field to poverty and heterogeneity of the *Usar* soil and sub-soil and absolve the thorough bred seed of all blame for defective vitality, germination, growth, the result of which is that the waving grain looks ludicrous like Moses' moth-eaten beard. But the same seed electrocultured and growing in the adjoining area plot has yielded a crop growing very dense, uniform with 100% germination and growth as looking like a bed of moss.

Rust the plant breeder has so far not been able to control. He has yet to pass from study to the laboratory and from the laboratory to the field. Wheat do are a few years or even decades matter when the problem is of world wide consuming importance, but here too the Electroculturist leads.

Cottons the plant breeder still finds a puzzle. Punjab Americans in course of time are neither Punjab nor American but show gathering weakness in face of the very troubles which they were designed and evolved to avert. The Electroculturist has had very singular luck with his cottons and made diseased yield lent and staple 50% better in value and approaching the best American. Pink bollworm rootrot has also controlled.

Dry rot of citrus (*Mal Secco*) has so far evaded the best

efforts of European expert breeders to control it. Fabulous prizes meant to stimulate research have so far gone a-begging. The electroculturist was pressed into service and preliminary tests have had such prophylactic value that half the prize money have been earmarked for work on his lines, which mean apparently farewell—a long farewell, to all genetics ! Rubber plantation have been decimated and ravaged wholesale by fomes lignosus 14 years back. A substantial prize was won in open contest by advocates of the method of clean-clearing which might also be dubbed clean-curing and implies that the disease is radically suppressed by killing off the patient and disposing of his remains past redemption. Later experience has shown this method to be a failure as un-clean-cleared plantations have shown less predisposition and incidence and mortality than the clean-cleared ones. The explanation is not furnished by the orthodox plant-breeder but by the electroculturist which is electroculture through organic rays. And actually dying, drying rubber trees have been restored to verdure by electroculture.

What are the trends ? There is no conflict between the plant-breeder and the electroculturist. The electroculturist is himself a plant-breeder par excellence. Barley, gram, mustard seed once electrocultured, have continued to manifest their superiority over the untreated seed from generation to generation down to four generations unabated. Nor is there any indication or reason of abatement. It is well known that seed exposed to X-rays undergoes genetic changes. A member of the E. F. G. A. has shown that Yarovised seed is equally geneticised and discussed the presence of Yarhormones. That discussion is out of place. More appropriate is an exposition of the electroculture of seed. The following methods have show outstanding merit and success.

1. Sparking of seed for 1 minute.
- II. Gradation of seed with Xrays and ultraviolet rays.
- III. Sowing of seed in rediomagnetic bed.
- IV. Sowing of seed after soaking in electrified water.
- V. Irrigation of seed bed with electrified water.
- VI. Agaskarisation.

The successful results of treatement of a very wider variety of seeds with the above methods have been fully published in some 125 bullitins of the Electroculture Association in the Fulgura Flecto Series, as also in the Bulletins published by the U.P. Department of Agriculture, Congresses, Universities and Royal Society of Arts and it is neither necessary nor desirable to compress into a few lines here. For convenience of reference the following Catalogue Raisonne (F. F. bulletin No. 116) may be given.

I. *Methodology*:—The methods that have been developed and are in course of developments require, for understanding their scientific bearing fully, a reference to the previous works of the President on the subject, which are given in Appendix A. There the worker will realise how the early tests were made with very powerful currents, sparks, doses with the result that, repeating Hercules' encounter with the robber, a hundred blows were given with ninety wasted. In order words, it was soon realised that long, strong treatments were all a waste of energy and likely to do harm. Thereafter, the simplest methods based on very mild, brief dosages came to be adopted till finally the extremely mild type of treatment with jacketing has pushed every other out of the field. At the same time, the field itself has been expanded to cover Plants, Animals and Humans. Evidently, the technique of methodology itself is capable of, and subjected to, further perfection. Thus, for instance, it has yet to be fixed when exactly a treatment should begin and when it should terminate to secure a

certain specified result. There are many pointers for workers, who follow. They will enrich these researches with their results. For the moment, suffice it to realise that the simplified methods have met with ready and almost universal acceptance, not only on paper, but what is more important in the field, in the farm, in the garden, in the pen, in the byre, in the yard, in the sick-room, in fact wherever Electroculture can be applied to Plants, Animals, and Humans.

II. *Garden Practice*:—The individual publications will speak for themselves. But it is important to note how dying gardens have come to life. Such trees as were falling under the woodman's axe have been saved. Amateurs tell their Story. Garden lovers enumerate the good results they have obtained and the whole Section crystallises the most profitable elements of Garden Practice.

III *Special*:—These are especially selected plants on which workers have spent much time and labour in the pursuit of researches, which have added to the store of our practical knowledge on the subject. The plants chosen are of great value for Industry, Home, Farm etc. While the General Section has dealt with the garden species, here the selection has fallen on Plum, *Jamun*, Mulberry, *Pan*, Palm, Rubber, Fig, Custard Apple, *Gauva*, Bamboo, *Dhak*, Broomcorn, *Duranta*, Tomato, Mango, Cucumber, *Karela*, *Bhindi*, Croton, Pea, Potato, Cauliflower, British Mushrooms, Rose and Cotton. The value and importance of each of these plants is undeniable and research is continuing.

IV. *Pests and Disease*. Good results have been obtained in fighting these invaders of the home and farm, be they visible, semi-visible or invisible, from the monkey to the virus. Methods have been worked out with success for combating them.

V. *Records*:—These records will show that Electro-culture once applied looks after itself and leads to results which continue from year to year.

VI. *Controversial*:—This Section is devoted to controversies which have been opened not by the Association but by critics, cynics, sceptics, who would come forward with a query and often not wait for an answer. In the interest of Electroculture and Electroculturists, it is desirable to put down a systematic answer to such queries in the present form.

VII *Exhibitions and Demonstrations*:—As the large majority of the practical farmers and amateurs are illiterate or have no access to the literature, it was essential to hold the greatest possible number of exhibitions and demonstrations at suitable centres in the Rural Area. Very soon after the first few, the province of Electroculture had expanded to cover not only all Plants but also Animal and Humans. The Electroculture Show with the accompanying demonstration became a gathering centre on the one hand for those who had already achieved good results, and on the other, for those who were anxious to apply the new methods. Their success can be gauged from the fact that they came to be held at many distant places and at very short, or even without, notice. Indeed there was no difficulty in collecting human exhibits for such demonstrations since those who had been treated separately thronged the auditorium and helped to demonstrate the effects of treatment.

VIII *Exact Tests*:—The reproach has often been levelled that many of the tests undertaken by members of the Association are not exact. This, in a way, is a reproach which attaches to all human effort, but broadly considered, it is impossible for tests which are made on varying scales, to have the same measure of exactitude. Anyhow, some

members of the Association have made very exact tests with notable success.'

IX. *Human Electroculture*.:—The widening of the field from Plants to Humans was not sought by the Association but forced upon it by sufferers, who came forward in large numbers for trying out the new Electro-cultural methods, on themselves when they were being demonstrated to the public. Their number has exceeded ten thousand and they have helped to collect information, to make generalisations and to achieve results which are of considerable therapeutic and prophylactic value.

X. *Animal Electroculture*.:— Veterinary Science is obviously not so advanced as Medical Science, but the relief is very much harder to get in wide tracts in the rural area. It is, therefore, inevitable that owners and lovers of animals should bring them for Electro-cultural treatment. Their results have added a special significance to Electroculture.

XI. *Miscellaneous*.:—This Section is really concerned with matter of domestic improvement and serves to fill up material gaps in the frame-work of the Association and its activities.

XII. *Appendices*.:— Appendix A is the list of pioneer publications on the subject. Obviously, very long before the Association was formally initiated the President had been at work on the subject in a tentative form trying out new methods, simplifying the more complex and widening the more narrow ones. These old methods are not out of date, but can still be used in special cases by the cautious worker.

It may be asked: how is the poor villager to profit by these new fangled methods? Now, the poor villager has not been neglected ; in sober fact, his very poverty and

rustic sense and so-called unintelligence have been designedly kept in view, while the electrocultural methods were being evolved. The whole technique has been simplified and made fool-proof and inexpensive. Further the traditional methods of propaganda by the printed letter have been abandoned for his benefit. In addition, the customary appeal by the spoken word has also been given up. In replacement of all these time-worn form of thought and action—*really* and *finally* of thoughtlessness and inaction—the powerful methods of dumb demonstration followed by distribution of prizes, articles, literature have been followed. Electroculture of plants, animals, humans has been demonstrated at countless gatherings in the Rural Area. Electrocultural shows held imprompty, the best Rural Exhibitors rewarded and thousands of bits of radiomagnetic wire-netting given away ; arrangements made for supply of Electrified Water. The local gardens inspected and made up-to-date and finally the cause of electroculture promoted in as practical and popular a form as possible. One zamindar has doubled his yield of jowar from 250 to 500 mounds in the same field by soaking his seed in Electrified Water. Another has changed his wheat and barley fields out of recognition by sparking the seed ; a third has got his late sown *pāundas* (sugarcane for chewing not crushing) to ripen practically overnight by agaskarisation and so on and so forth. The test is legion, suffice it to learn the lesson.

The problem of manure.

Does the villager give a thought or care to his manure? Never or hardly ever ! He sees its quality depreciating. He sees the thin watery stool in lieu of the hard voluminous pieces passed by his cattle ; he sees his fields cropping less and less ; he sees his plough-bullocks pulling less and less and yet he views it all with un-intelligence and unconcern. So long as he can get enough manure for his *upla*

and enough *uplas* for his smokes and enough smokes for his cronies and enough cronies at his *Chaupal*—why, he will naively turn round and enquire: What's the worry?

Actually the manure problem is among the weightiest pressing of the country side and the chief complaint is that it is not heavy enough and does not press enough. It has no manurial power.

TRUE has already been at pains to improve the breed and quality of cattle in an earlier section. Therewith the dung delivered for manure shall also increase with better pasturage irradiated feed, electrified drink. The improvements already observed are instantaneous and the first test answered by the improving animal and the first response it gives to electroculture is through its dung. This gets harder, firmer, cleaner, bigger. Therewith nothing more is left to be said, only to be done, and the bacteria will do the rest.

The villager is often advised by interested parties to use this type of manure and not that or another. This calls for clear thinking before clean counsel can be taken.

The following manures call for notice (1) *Farm-yard manure*. This has already been noticed above and is invariably used. (2) *Organic manure*. This may be sheep's, intestine, fish manure and the like. The quality available is so infinitesimal compared with the colossal demand that the replacement of farmyard manure with any of costly cumbrous, peculiar, substitutes is unthinkable. Such extraordinary agents or reagents may be recommended in abnormal cases, but were better left severely alone. Tests made by an esteemed member of the E. F. G. A. on a wide variety of vegetables and fruit crops have shown that their eccentric factors exert an effect when mixed with farmyard manure but that is no guarantee of their excellence.

3. *Chemical and mineral manures*. Aluminium Sulphate Potassium Sulphate Ammonium Superphosphate etc.

Tests have shown these chemicals yield good results but the efficacy varies with the ion, the heavier the ion the more effective the manure. Further discussion and digression, however fascinating, is useless as the villager cannot afford to try any of these costly adjuncts to farm-yard manure.

4. *Molasses.* These furnish an indirect means of applying nitrogenous manure, which our critic prefers to apply directly. The fear is that the amount of deep and repeated ploughing needed fully to aerate the decomposing molasses will overwork the average under-powered bullock.

5. *Bone meal and bone phosphate.* The villager will indignantly turn his back upon the heap of animals' bones and revolt at the very idea of handling the bone or meal. So the less said about this type of manure the better.

6. *Sewage and Sullage manure.* This is a recent method of utilizing house refuse, nightsoil, excreta, sweepings and the like by converting them into manure in the course of a few weeks. The rotting matter is stacked on the ground or dumped into pits, turned, aired and layered, handled in accordance with prescribed instructions and the coarse unworkable stuff is converted into friable manure. But this system rules itself out for use in the Rural Area—where the faeces are dropped all over the field and jungle as there is no proper flushing or scavenging system, the conversion of house filth into manure is out of the question. Urban centre may try the new method with profit but it will be a misfit to the rural area.

7. *Electrocultured Manure.* This is the most satisfactory effective type of the manure and admirably suited to the requirements of the villagers and therewith is solved this biggest problem confronting T R U E in the rural area which is the proper disposal of dung and urine of live-stock. Take this first.

The usual counsel—a counsel of perfection—is that all such organic waste matter should be taken out by the villager and his family in baskets to some distant place outside the village habitable area and then dumped into a pit which is dug deep and wide for the purpose. This form of pitting or dumping has been advocated in season and out of season both with rhyme and reason by the orthodox uplifter but with very meagre results. What is the explanation? The village matron and maiden will not add to their drudgery by carrying basket-loads of the foul stuff on their dainty arms and heads from the farmyard to the pitting ground allocated for the purpose. That unpleasant but basically vital fact has to be admitted and accepted, and admitting and accepting it T R U E has counselled differently so: Convert your dung with urine as it drops on the spot into *upla*. Let the *upla* dry in the *upla*-brick in full light of sun and play of air. The noisome odours will soon abate; the foul matter cake to *upla* in no time, and the *upla* brick is ready for use as manure.

Many will evince surprise at the idea of using dry *upla* as manure. Let them recall the *upla* brick in which mushroom spawn is exported. The spawn is imbedded in brick of horse-dung no bigger than an ordinary cow-dung *upla* and then all that is needed is to crush the friable brick into small pieces and scatter them in the bed prepared for the purpose. This analogy is very instructive and far-reaching. But the recommendation made earlier is not based on a mere analogy but live research. Tests by the Electroculture Association have shown better germination, better growth, better maturity, and better yield, when the seed is sown in a bed in which crushed *Upia* is sprinkled than in a control bed of ordinary farm yard manure, so called. The only care taken is to sprinkle electrified water on the crushed *upla* brick or better still soak it in electri-

fied water before crushing and sprinkling. Conclusive tests were made with mustard.

Two difficulties will arise and can be easily removed. First—how to prevent the abuse of *upla* as fuel. The answer is, by self-control. Next, how to procure Electrified Water ? This is explained in the following section.

The water factor on the Farm. No water, no crop. That is axiomatic. The supreme concern of T R U E is to set up another axiom; *Less water, more crops.* In other words, it is not enough to grow two blades when one grew before, but to grow two blades with one drop of water, where formerly one grew with two. The problem is twofold: Utmost economy in the use of water on the one hand and efficiency on the other.

What are the available supplies of water ? The *jhil*, pond, tank, well, canal and river.

The *jhil* has a wide margin of soil which bears good crops and a wider belt of land which is irrigated with water taken from the *jhil* by means of a water basket (or *dhenkul*). This simple waterlift is easily set up and stepped up, so that water is taken up from one level to another by such a series or battery of baskets worked by the villager and his mate and often female relations. Two improvements are possible, wherewith to widen the zone commanded by this type of irrigation. First, an improvement through economy of effort. Obviously, if the water is actually lifted by human hands with the strings attached to a basket which dives below the level of the *jhil* surface and comes up to the higher level of the outlet, very much greater effort is expended than if the basket were tied to poles and the lift after dipping secured by pulling the poles apart at the upper ends while the lower ends are stabilised against the ground. Then each worker would be

holding not his basket by the string but the top of the pole from which the basket is slung and the pull would be increased and conversely the labour diminished by the augmented leverage afforded by the poles. Such a device was explained in an early session of the Indian Science Congress.

The next improvement is secured through reduced wastage of water as it runs in the channels and courses, where such a loss is very appreciable and it is no comfort to the harassed waterlift worker to realize that he is keeping the land moist, because every drop so dissipated means so much water less for his essential cultivation further away. For he has to concentrate on the latter and raise a paying crop on a distant plot and not weeds by the way. The loss of precious water "*by the way*" is universal and has been prevented in many orchards in the West by the use of cement drains which canalise the extensive orchard grounds and constitute a small canal system in miniature. The distribution of water at any particular point is affected most ingeniously. The drain is deep as it needs must be when it has to carry so much water while the lateral drains are very shallow since not much water is required at any point. So just beyond the bifurcation where the lateral drain takes off two narrow slits or grooves are provided into which a board or small wooden gate can be inserted. The water is dammed up, rises to the level of the lateral drain and overflows into it *ad lib.* When no longer needed, the dam is detached, the flow in the main channel again drops to normal. Seeing that water from the *Jhil* is required for valuable crop lands on a permanent basis, such a cement or brick-work drain system with its head at the *dhenkul* platform would save every drop of water actually wasted and double the zone of cultivation commanded.

The pond is a *jhil* in little. The water is more stagnant and dries up as a rule. The above improvements can be applied to the pond as well. In addition, it should be properly banked, grassed and turfed and surrounded with a skirt of *turshava* or early-growing fruit-trees like plaintain, guava etc. which will save the water from loss by evaporation, for the foliage will keep out the sun and the wind. In addition, the pond should be provided with steps for humans and an inclined approach from the bank to the water level for animals. Moreover, it would be a wise plan to make the boundary or margin of the pond *pakka*, thereby saving much water from dissipation through evaporation and percolation *in situ* and conserving it in the hot weather for man and beast. For the requirements of animals—seen and unseen—in the burning heat of summer are unthinkable. Birds and dogs, cattle and goats, camels and buffaloes call for proper watering arrangements, if only in the interest of man himself. A little thinking will make it clear. Birds on the wing will alight round this oasis and make it their sanctuary with the result that they will look around for food and gobble up all the vermin and insect pests in the villager's habitation and cultivation, so benefiting both. That aspect of economic ornithology is very poorly understood; the day when full understanding comes is yet far off; but there is no reason why as a practical proposition, scarecrows should not be replaced with sanctuaries and silted slabs in a desiccating pool or pond with green sheets of water and verdure.

From the *kacha pakka* pond to the *pakka tank* is an easy step and yet that easy step or glide goes sky high from penury to affluence, from sordidness to romance, from *Kismet* to culture. For, among the cultural treasures of India her *tanks* take a very high place. Bundelkhand has the finest *tanks* in the world. The fair face of

India is embellished with these gems of charity and sculpture. Princes and potentates have faded from the popular mind, but these gifts will survive to the last day. And today when the need for water is more acute than ever, it is up to the zemindar, especially the leader of his brotherhood to endow his village with a *pakka tank*, with glorious flight of steps and colonnades and green walks. If England has a village-hall for every village which is its pride and delight, so should India have a *tank* for every village which should serve as a haven of repose and bustling centre of village life simultaneously.

But the tank has to be kept clean, provided with fish, with *turshava* and arboricultured with *nim*, mango, *bargad*, *pipal*, etc. So tended, it can retain its water content practically undiminished and prove an invaluable stand-by in days of drought and take the load off the well. To those who fear that it may dry up, let this advice be tendered that they should provide the tank bed with a well or two which will not dry up.

The well is the salvation of the village in the last reckoning and there cannot be too many wells for drinking or irrigation or both. But a hole in the earth with a heap of more earth around, all bare to the sun and the sky, is not at all the sort of well TRUE has in view or prospect. The well he advocates has the following five features.

1. It has a sloping parapet.
2. It has a running drain.
3. It has a bathing platform.
4. It has a cattle trough.
5. It has a proper roof and garden.

The functions of these adjuncts are obvious—

- (1) Will prevent the use of the parapet or lip of

the well for putting dirty clothes articles or feet on; (2) will catch all the waste water and utilize it for 5; (3) will enable bathers to bathe in decency and hygiene; (4) will be a god-send to thirsty animals and save the pi-dog from developing mange or rabies, the stray cow and siring bull from swallowing filth and the other animals from disease and finally (5) will keep the water fresh, cool, clean, healthful, a joy to the mind and a boon to palate and throat.

The canal and river call for no comment. They are available on such a restricted scale that alternative sources, have to be tapped as above for supply of water.

So, far conservation of all available water by prevention or reduction of evaporation or dissipation in other ways; in a word, economy in use—Next greater profit from that water or efficacy in effect. How to make one drop of water do duty for two or even four. Electroculture shows the way.

Among the many methods which the E. F. G. A. have devised, tried and broadcast for the application of Electricity to plant life and plant growth the most successful is that called *Agaskarisation*. It includes Electrified Irrigation and goes much above and beyond it. It consists in enclosing the growing part of a plant or any biological specimen—animal or human no less than plant—with a mantle of Electrified Water which sets up a mild field under the action of which the vital sap, juice, blood, circulates much more freely, on the basic principle that where-ever there is cellular activity there is electrical energy, and conversely. And since a biological specimen in growth is growing in every part and parcel, no matter where the film or mantle of Electrified Water and therefore field or potential is applied, an immediate response through better growth is expected in theory and recorded in fact. Moreover, since only a thin film is needed, the smaller the quantity of Electrified Water used, the better. So Electrified

water is as good as twice or four times its volume of ordinary water, if used in the same amount the effect is the same as that of Hercules' 100 blows given to the robber will go wasted. So, one must distinguish *Agaskarisation* from ordinary irrigation:—

1. Ordinary irrigation is for roots and soil: *Agaskarisation* is for the whole plant.

2. Ordinary irrigation of the upper visible growing parts will not be affected; *agaskarisation* will be most effective when applied just to those parts as shown by the differential response of branch against branch and bud against bud and flower against flower and fruit against fruit and leaf against leaf on one and the same plant, stem bunch, cluster, twig, where one of them is *agaskarised* and the other kept untreated for control.

3. The ordinary irrigation of the soil content no less than the root processes has to be done with water in adequate quantities, for *Agaskarisation* very little is needed and is poured from the top like libation or *pūja* and the smaller the amount the finer, the film and the better the effect.

Very extensive and exhaustive tests have been carried out by the Electroculture and Fruit Grower's Association through its numerous members on a very wide variety of plants and soils of notorious poverty and sterility such as *Usar* with uniformly consistent and satisfactory results. Indeed for *Usars* and desert soils there is no other remedy except *Agaskarisation*. For therewith the acreage under plough, when every drop of water is precious can be easily multiplied by three and four. Also, tests have been shown that with proper Electroculture even pure sands and sandy soil can be made to yield good crops even better than *lvaru*.

Electrified Water is prepared in villages without electricity without any trouble by the use of any motor

car, motor cycle, motor lorry or even an ordinary bicycle which is fitted with a three rupee cycle lamp and dynamo. With a motor car a battery of 40 or 80 two gallon pitchers of water can be prepared in one minute. Ten pitchers can be arranged in a series with a wire dipping into and out of each and then attached to one of the piercing plugs of the engine. If 4 cylinders, four such series can be set up and the whole lot electrified by running the engine for one minute. If a motor car, lorry or cycle be not available, then the head of the cycle dynamo of an ordinary push-bicycle is dipped under a pitcher of water, the bicycle stood on a stand and the rear wheel rotated for one minute. The current is led straight into the individual pitcher or battery of pitchers to be electrified. Tests with Electrified Water have been made not only by leading zamindars themselves but they have gladly allowed tenants to come forward with the pitchers, 20 or 50 or 70 at a time and electrified their water. Indeed the complaint made by one of the numerous zamindars trying this method of distribution is that the peasants do not care to keep it in reserve for their cultivation; they drink it all off themselves.

The demand for electrified water for agaskarising in the Rural Area for all husbandry—Plant, Animal, Human—has gone up by leaps and bound within a few weeks. The distributing agencies are:—(1) a travelling dynamo, (2) motor car of zamindar, (3) lorries of public utility service (4) cycle of villagers in the Rural Area and (5) Hoc Societies and (6) E. F. G. A. ~~But~~ the supply does not meet the demand but much work has been done and T. R. U. E. has successfully shown the way and fired with enthusiasm its local workers.

Strong raving torrents in monsoon shrink to try trickles of water in the hot month. How to utilise them.

A simple way to dam them as the water collects and rises to the bank utilise the *dhenbul* or Persian Wheel or *Rahat*.

The *Rahat* is a very efficient form of water lift. It can be worked by bullock, camel or buffalo. Even so it admits of many scientific improvements. One such has been designed in the following words :—

As marketed at present, the Persian wheel suffers from many defects. The surface machinery takes up too much space, at least 10 metres by 5 metres and it requires a big well, which is thereby put out of use, so far as its ordinary purposes are concerned. Then, the parts, especially the shaftings, gearwork, transmission are very heavy and cumbrous. Evidently, wasteful stresses and strains including considerable forces of friction are set up. *Per contra*, the yield of water, and therewith efficiency, is low, one reason being that the buckets are small and heavy and do not spill over into the discharge-channel completely, but drop an appreciable volume of water back into the well. In a word, the existing Persian wheel is not such a business proposition as it should be.

Improvements can be effected in the following ways:—

1. The bullock circuit is centred on the well and not fixed a distance away. The well can be any size, the smaller the better. One buffalo or bullock or two men can work the lift.

2. Parts such as superfluous shafts, axles and wheels are all done away with. Therewith many forces of friction are eliminated and instead only three such left in operation.

3. The yield of water is increased very much by having bigger, wider, steadier and lighter jute or canvas pockets sewn on to a running belt of jute or canvas which travels up and down the drum, as an endless chain. The buckets formed by such loose pockets are collapsible and

spill over at once into the discharge-channel parabolically, without throwing a drop of water back into the well. Moreover, the channel is not crooked as is usually the case, but a straight rectangular drain or inclined plane which can be pushed backwards and forwards and manipulated very easily.

The material used has been the cheapest and the simplest. It consists of:—

100 iron nails, 34 yards of strong canvas (width 1 yard) 1 iron rod, $1\frac{1}{2}$ inches thick and 10 feet long, 4 wooden planks, 4 ft x 1 foot x 2 inches, 1 piece of wood 4 feet x 1 foot x 1 foot and one big and strong bambo pole. The measurements are as follows:—Diameter of the bigger wheel on which iron nails are fixed 3 ft $\frac{1}{2}$ inch, diameter of the smaller wheel on the other side of the bigger wheel. 1 foot $11\frac{1}{2}$ inches. Diameter of the upper cog-wheel 1 foot $8\frac{1}{2}$ inches. Iron rod 10 ft long and $1\frac{1}{2}$ inches thick. Wooden beam for supporting the upper cog-wheel 4 ft. 11 inches. Wooden plank on which the upper cog-wheel revolves 9 ft. 4 inches in length and 3 inches thick. Canvas belt with buckets 100 ft long and 18 inches wide.

The drum is not complete and inter-spaces are left between successive cross beams, to save both material and labour. Experience shows that the canvas belt grips all the better, and it is not necessary to have a completely cylindrical drum. For applying necessary power, all that is required is to fix the long bambo pole into a hole in the axle of the upper wheel and turn it round. The mechanism is very light and friction considerably reduced. To reduce it still further, the axles of the wheels may rotate in cups of lubricant.

Purse and Surplus:—Where is the villager's purse? Only a peeping Tom, who curiously pries into his secrets long enough could give a complete answer. Ostensibly it is

the fold or roll of his *dhoti* at the waist, where it goes light round the body, and on occasions he may be seen bent into a human question mark when extracting a few coppers from that sinous person. The wonder is that the precious coppers do not roll out every time he takes a bath at the well and changes his *dhoti*. But the real purse is elsewhere: It may be the thatch above his head ; or the dung below his feet; or the earthenware pitcher in the granary; or the mud hole in the inner wall or in some other hiding place, which he must take good care to remember exactly, or woe betide him when a murderous dacoit tortures him into revealing the hiding place and he cannot do so through lapse of memory.

But the purse seen is bigger than the purse unseen. The former is the threshing floor, dark with produce, the waving field yellow with corn, the farm yard vocal with live-stock ; the brown rick bulging with upla, the wooden cart groaning under timber—these are all purses for they contain articles which he can promptly convert into cash or credit to balance his budget or liquidate his liabilities. For, they are his assets as much as the coppers wedged into his tripbone,

A complete census of *assets* would ramify under the following heads:—

- I. Crops.
- II. Proceeds of crops sold.
- III. Debts cleared off.
- IV. Money lent.
- V. House property.
- VI. Personal effects including utensils.
- VII. Agricultural implements and stock, and
- VII. His wife's jewellery.

The liabilities are the debts which he has incurred and they fall under the following heads:—

1. Inherited debts.
2. Self-acquired debts.
3. Renewed debts.
4. Paid off debts.
5. Debts with low rate of interest.
6. Debts with moderate rate of interest.
7. Debts with high rate of interest.
8. Debts with usurious rate of interest.
9. Oral debts.
10. Written debts.
11. Debts secured on land.
12. Debts secured on jewellery.
13. Debts secured on crops.
14. Debts secured on labour.
15. Debts secured on house.

These heads are not materially exclusive but regroup into the following five heads:—

I. According to the nature of debt contracted (1) and (2)

II. According to the manner of discharge affected (3) and (4)

III. According to the rate of interest fixed (5), (6) (7) and (8)

IV. According to the mode of contracting observed (9) and (10)

V. According to the type of security, offered and accepted (11) and (13)

And the sources of debts available are ten as under:—

1. The villagers themselves.
2. Mahajans.
3. Money lenders.
4. Kabulis.
5. Punjabis and Peshawaris.
6. Grain merchants.

7. Family priests.
8. Temples.
9. Co-operative Societies.
10. Banks and Government.

These regroup into the following divisions:—

- I. Internal source, 1, 2, 3, 6, 8 and.
- II. External source, (a) Permanent 6 and 10.
(b) Itinerant 4 and 5.

The usual mode in which assests and liabilities find their equilibrium is through sales, and these may fall under:—

I. Sale of crops—actual ; potential ; extra ; *batai* or *sawai*.

II. Sale of fruit on the tree, actual, maturing or expected.

III. Sale of brushwood, firewood, timber.

IV. Sale of dung and dung-cakes.

V. Sale of gathered fruit and vegetables.

These sales may be:—

- (1) free;
- (2) forced;
- (3) full
- (4) linked.

And the prices fetched may be:—

1. Natural demand and supply.
 2. Artificial litigation; politics or other factors.
 3. Cut throat
 4. Fancy
- } Both abnormal in either direction as
a result of dumping, cornering or
speculation or influx of local or regional or world prices.

Turing round to *surplus* what, if any, remains of that powerful fuel of Rural Uplift at the villager's disposal ? For clearly the effective surplus which is left over with the villager will feed the machinery that is going to uplift him through better food, better shelter, better clothing, better cultivation better status: Equally, in a primary computation and *prima facie* view, that surplus will be the difference

between the assests and liabilities a real surplus if that difference is positive and a sad deficit if it is negative. In the former case the villager will be uplifted, in the latter go to rack and ruin. That the latter is more often visibily the case than the former is a village tragedy without chorus or commentary.

In the course of a meticulous survey of some fifty typical villages on the basis of the 50 castes represented in the Rural Area, the results of which have been published under the title of *Caste and Credit* (Longmans Green) censuses of assets and liabilities and of indebtedness and credit have been taken on the spot and the basic principles examined and established and much necessary spadework for Rural Uplift accomplished. The essential conclusions will not be out of place ; in fact, a bird's eye view is clearly indicated.

Apriorists imagine that indebtedness varies with the time of the year, being higher before Rabi, than after, as *Rabi* operation involves considerable temporary debts which are discharged as soon as the *Rabi* crops are marketed and sold off. So, of the two seasonal crops, the *kharif* is the food crop which replenishes the farmer's larder while the *Rabi* is the *money crop* which goes to line his purse. So, he subsists on the *kharif* and pays off debts with *Rabi*. But such *a priori* reasoning is not justified in fact. All *a priori* conclusions must be discarded at the threshold. Facts show that there is absolutely no interlocking, interdependence, gradation, similitude or parallelism between the total indebtedness and the old indebtedness. *A fortiori*, there is no such liasion between the old indebtedness and the new indebtedness. Indebtedness is not determined by the need of funds for agricultural operations, *Rabi* or *Kharif*, but by factors which have no immediate and direct bearing or concern therewith. And this is true of all castes,

agricultural and non-agricultural, professional and non-professional or castes which are partly the one and partly the other.

As to what exactly are the objects of Rural indebtedness, if not wholly or largely the financing of agricultural operations, theory has again proved a very bad guide. These are in all possible permutations and combinations any or many or all of the following:—

- (1) Subsistence of self and family in village.
- (2) Maintenance of relation abroad.
- (3) Maintenance of self or family during pilgrimage.
- (4) Performance of religious obligations.
- (5) Performance of family obligations.
- (6) Performance of social and caste obligations.
- (7) Civil litigation.
- (8) Criminal litigation.
- (9) Revenue litigation.
- (10) Speculation in immoveables.
- (11) Speculation in moveables.
- (12) Purchase of seeds.
- (13) Purchase of manure.
- (14) Purchase of implements
- (15) Purchase of bullocks.
- (16) Purchase of man-power.
- (17) Improvement of house.
- (18) Improvement of holding.
- (19) Sinking wells.
- (20) Building tanks.
- (21) Payment of dues on account of revenue.
- (22) Payment of dues on account of rent.
- (23) Payment of manorial dues such as *naxrana* etc.
- (24) Payment of customary dues such as *nali* etc.
- (25) Payment of rates and cesses.
- (26) Discharge of self-contracted debts.

(27) Discharge of inherited debts.

(28) Discharge of *takavi* debts.

(29) Discharge of Co-operative Societies debts.

(30) Payment of interest.

These regroup into the following *synoptic* heads.

I. Maintenance (1), (2) and (3).

II. Performance of obligations, of family, religious caste custom or society: (4), (5) and (6).

III, Litigation Civil, Criminal and Revenue: (7), (8) and (9).

IV. Speculation in moveables and immoveables. (10) and (11).

V. Purchase, including hire of requisites of husbandry. (12) (13), (14), (15). and (16).

VI. Improvement of house and holding. (17), (18), (19), and (20).

VII. Payments of legitimate or customary dues. (21), (22), 23), and (25).

VIII. Discharge of debts including interest. (26), (27) (28), (29), and (30).

The conventional classification of debts into avoidable and unavoidable, productive semi-productive and unproductive is false fallacious and unjust to the facts that are ; it easily breaks down. The average villager who relies on agriculture for a livelihood for himself and numerous dependants usually lives from hand to mouth, with little or no reserve for lean times, does not incur any avoidable debt. Circumstanced as he is, he avoids all debts, and—what is more important—the lender is not likely to lend him money in a hurry. Consequently, the debts such a villager incurs are all unavoidable in every sense of the term. Proceeding to the further fallacy underlying the classification of objects of indebtedness into productive or unproductive, it is customary to

class debts incurred on litigation, marriage and social functions or payment of interest as wholly unproductive and the remaining objects of debts as productive. But such a view is a superficial view. The object of marriage is productive, and more than productive—reproductive. The object of social functions is to guarantee the status and so conserve and raise the fellow's standard of living. The object of litigation is to safeguard the person and property, the life and holding of the agriculturist or his dependants. How can these objects, then, be considered unproductive? They are obviously productive because they produce results; because those results are reasonable and justified; and because they subserve the best interests of the agriculturist himself, his hearth and home, his fields and folks.

Hence the classifications of objects of indebtedness into avoidable and unavoidable, productive and unproductive and semi-productive, easily breaks down. And earlier in this chapter it has already been sufficiently indicated that money borrowed for one object, however laudable may be, and usually is, spent on another object not the less laudable, but altogether different. This sort of indiscriminate spending of money on objects other than those which are held to justify a loan, becomes all the more inevitable—not to say excusable—when it is remembered that the villagers live from hand to mouth; that the limits between famine and scarcity and scarcity and plenty are relatively narrow and ill-defined; and that money may be, and generally is, needed for ever so many objects at one and the same time. Hence when such considerations weigh with the observer, it will be idle and infructuous for him to direct his enquiry into the objects of indebtedness and the apportionment of a debt as between so many objects, and in actual fact it has been found more profitable to

conduct this survey along the channels furnished by the kinds of debts and the sources of debts.

As to security offered and accepted, the following principles have been established by the survey.

I. The higher the caste, the greater the security of caste and credit accepted for debts given to such caste.

II With the high castes, all debts are secured on caste and credit.

III. With the low castes the security taken is largely crops, their houses and finally labour.

IV. Debts secured by the caste and credit in the case of the low castes are negligible; and the lower the caste, the greater order of negligibility. But then, with the very lowest castes, such as *Pasis*, this order as due to the special credit of that caste as labourers and watchmen—on the principle; keep a thief to watch a thief—may be reversed.

As to sources of debts, the following is found caste-wise.

(a) *Ahirs* :—*Mahajans* and money-lenders have lent one-third each ; the villagers themselves, one-sixth ; and *Kabulis* and *Punjabis* one sixth.

(b) *Brahmans* :—*Mahajans* have the bulk of the debts; the villagers themselves only a very negligible part of the same (one-twentieth).

(c) *Gadarias* :—*Mahajans* have lent one-tenth of the debts; moneylenders only a small part of the same (one-sixth)

(d) *Chumars* :—*Mahajans* have lent the bulk of the debts, villagers only a small part of the same (one-fifth.)

(e) *Kahars* :—*Mahajans* have lent two thirds of the debts; villagers two-thirds and money lenders one-sixth.

(f) *Pasis* :—Villagers have lent most debt, more than one-half of that amount has been lent by '*Mahajans* while money lenders have lent about one-tenth of the total.

(g) Other castes :—*Mahajans* have lent for the most part

It is permissible to generalise thus:—

I. *Mahajans* have lent to all castes, but in varying proportions, most to the highest castes and less to the lower castes.

II. Money-lenders have lent most to the *Ahirs* but very much, in fact negligibly, less to the other castes.

III. Taken relatively, the villagers have lent appreciably more to the lowest and lower castes than to the higher castes.

A caste-wise survey of indebtedness runs as follows:—

(a) The *Chipas* are the most heavily indebted having over one-third of the total debts, but the rates are low to moderate, the security caste and credit wholly, the contracts oral and evidently their indebtedness does not weigh so heavily as its volume might indicate.

(b) The *Banias* come next in indebtedness having one-sixth of the total indebtedness. The rates are mostly low, yet high rates—nearly $1/3$ of the total—are not lacking, for a *Bania* will be a *Bania*. The security is largely caste and credit.

(c) The *Thakurs* come next, having one-fourteenth of the total indebtedness. The rate of interest are uniformly high and the ratio of oral to written debts is 4 to 1. The security is crops and land in the ratio of 5 to 1. Debts secured on caste and credit are insignificant (0.05 of total) which is remarkable as both rank high.

(d) The *Ahirs* come next, having one-sixteenth of the total indebtedness. The rates of interest are medium and high in equal parts. The debts are under one-half oral and over one-half written. Security for slightly less than one-half is crop; for a very small part, labour and for the residue one-half, caste and credit.

(e) The *Morais* come next, having one-twentieth of the total indebtedness. The rates of interest are high to usurious [10 to 1]. The debts are largely oral [13 to 1]. The securities are crops and labour [10 to 1].

(f) The *Chamars* come next, having one-twenty-fourth of the total indebtedness. The rates of interest are high and usurious [7 to 1]. The debts are largely oral [5 to 1]. The securities are crops and labour [1 to 3].

(g) The *Chikwas* come next, having less than one-twenty-fourth of the total indebtedness. The rates of interest are high throughout. The ratio of oral to written debts is [3 to 1]. Securities are crops and labour in the ratio [6 to 5].

(h) The *Kumis* come next, having one-fortieth of the total indebtedness. The rates of interest are high to usurious [30 to 1]. The debts are all oral. Securities are crops and labour in the ratio [4 to 1].

(i) The remaining castes have around or under Rs. 200 indebtedness each. The rate of interest is high all through except for *Bhujwas*, where it is medium. The debts are mostly oral and secured very largely on labour except for *Brahmans* and *Godarias* where it is almost wholly secured on crops.

It may be permissible to generalise as follows:—

I. The *Banias* and *Chipas* form a class apart having heavy debts on favourable terms, which weigh lightly, if at all, and renew easily.

II. The high agricultural castes have much less indebtedness but the rates of interest are high and security crops and labour.

III. The lower castes—agricultural and professional—have still less indebtedness and the debts are largely oral with high rate of interest and secured less on crops and more on labour.

As to who borrows from whom, let the following be noted. *Ahirs* borrow from villagers and *Mahajans* in the ratio of 1 : 4.

Chikwas	do	2 : 1
Bhujwas	do	1 : 2
Thakurs	do	5 : 1
Muraie	do	6 : 1
Lonias	do	11 : 1
Chmars	do	16 : 1
Barhais	do	3 : 2

One may generalise thus :—

I. Grain merchants lend heavily to the business castes, Baniyas and Chipas, only.

II. The villagers lend to all the castes, either alone or with Mahajans.

III. The lower the caste, the heavier the proportion of debts borrowed from the villagers and the lower the proportion from the *Mahajans*, and inversely.

IV. *Ahirs* and *Bhujwas* are the only exceptions to whom the villagers lend less and the *Mahajans* more. The former are big borrowers and the latter need a stock of grain for business. Hence the mahajans is more likely to supply credit than the villager.

Turning to the other side of the balance-sheet to see the assets, a census of assets with its ramifications has already been explained earlier. Of the eight heads given, crops standing or gathered and of course the proceeds of crops sold will bulk largely in the picture. Debts cleared off are a negative gain and so far, so good. Money lent is important and it is usually money lent by villagers to villagers in the lending village or in another. House-property is a good asset and every villager, unless totally down and out and a vagrant, has a house or hovel with a roof over his

head, which is a distinct asset. As to personal effects, be they never so humble, they do confer a certain status and are largely safe from distraint, which enhances their value as assets. Thus utensils are exempt. Similarly, agricultural implements and stock figure largely as assets, even if some of the stock may be liable to seizure but the asset worth is *pro tanto* higher. As to his wife's jewellery which makes such a brave show—all is not gold that glitters—it is a sacrosanct being sacred to the sacrament which is marriage and is likewise unapproachable, and Heaven help the distrainer who dare lay irreverent hands on it. Unfortunately it is the dacoit whose brutal fingers tear it off that gentle wearer's person, should that unmitigated pest of rural society force a way into the villager's simple, defenceless dwelling. So, in any case, the villager rightly regards his wife's jewellery as a very good asset. In the final reckoning, there remains largely grain and the following is an analysis of its castewise distribution.

It is striking, although not unexpected, that the professional castes do not sell their grain but raise it for domestic consumption. So, for example, Bhujuwas, Sonars, Kayasthas, Baniyas, Tamolis, Telis, Dhobis. There are two exceptions to this rule, Lohars and Behnas, which show generally that while the professional castes go in for agriculture, their object is wholly to grow their own food and not to make any money thereby. But the Lohars and Behnas are growing more crops than they need, possibly as custom may be slack.

The remaining castes in the village, which are wholly or largely agricultural and raise crops both for house use as well as sale, are: Thakurs, Ahirs, Morai, Kahars, Gadarias, Brahmans, Pasis, and Chamars, These fall into the following groups:—

Group I having 0—10 maunds grain per family.

Group II „ 10—20 do

Group III „ 20—30 do

Group IV „ over 30 do

GROUP I.

This includes Dhobis, Telis and Nais. They have under 10 maunds of grain per family, gathered or standing—Rabi crop, which is meant for food and not for money, the popular fallacy to the contrary notwithstanding.

GROUP II.

This includes Bhujwas, Sonars, Gadarias, Kayasthas, Brahmans, Lohars, Baniyas, Pasis, Behnas, Chamars and Tamolis. These are 11 out of 18 castes altogether and have 10 to 20 maunds of grain. Eight of them lie in the first half-group, 10 to 15 maunds, which may therefore be taken as characteristic for the food census of the village.

GROUP III.

This includes 20 to 30 maunds of grain per family, and comprises Kahars and Morais. The latter are wholly agricultural and cause no surprise, but the former are partly professional belonging to the professional porter caste and their figure of 21 maunds of grain per family exceeds expectation. This may be taken to be an index of the *ruralising of a professional caste*. But the proceeds from sale of grain per family is only 10 as against 27 of Morais which shows that the natural order tends to reassert itself.

GROUP IV.

This includes castes having 30 or over 30 maunds of grain per family. These are only two: Ahirs and Thakurs, having 35.3 and 37 maunds respectively. But as there are only four Thakur families as against 81 Ahir families

and the Ahirs figures may be taken to be more normal than the Thakurs. Moreover, the sale-proceeds of the Ahirs crops per family are 24 as against only 3 of the Thakurs, which is an additional index of the abnormality and disparity of the latter.

The following principles may be deduced: [1] The high-caste agricultural families—Ahirs and Morais—raise the bulk of the grain, for food and sale. [2] The low-caste agricultural families—Gadarias, Pasis, Chamars—raise one-half the amount of grain, family against family, raised by the high castes and they sell only one-sixth in comparison. This is also natural: where the amount of grain raised is less, the amount of grain sold is very much less. [3] The professional castes grow grain for food and not for sale, excepting a few which have not much custom and therefore tend to *ruralise* themselves and grow grain both for food and sale.

The villager's *surplus* is the excess of assets over liabilities, but money surplus is not the only surplus under consideration. There are many other surpluses on which T R U E will properly fasten and focus attention in his efforts to upflit the down-fallen, down-trodden—as they are or feel they are. There is much virtue in this qualification, for it shows the way to self-help. Let the villager picture to himself that he is not down-trodden, that he only feels and imagines that he is, that that feeling is wrong and that notion unjustified, that in spite of his drawbacks and handicaps and the incubus of the Mahajan on his head and the clogs of cruel custom at his feet, he can still lend money to his fellow-villagers to the extent of 20% and be his own mahajan, so ousting the other fellow and hey presto! the first stroke of work of self-help has been done! Heaven helps those who help themselves and lo and behold:

The villager has already been helping himself without Heaven or anyone else or even himself knowing it.

I. But this *surplus of money* or what he lends out is nothing in the scale-pan. There are ever so many other surpluses lying idle at his door, at his feet, which he has to see, use and capitalise.

II. There is the *surplus of time*. Agriculture is largely *agri-nature*, in other words, Nature does a lot in the industry of agriculture, leaving the agriculturist considerable time at his disposal. This he can capitalise and utilise for self-training, self-education and the like.

III. Then there is the surplus of *leisure*. The villager may, as already shown, be wasting his time in profitless pre-occupations and then be complaining that he has no leisure. Actually, he has all his leisure-time devoted to such unwholesome activities as drinking, smoking, litigation, and so on.

IV. Then there is the surplus of *produce*. Obviously there must be an excess of production over consumption, or there would be nothing left over to sell. But, as things are, there is so much inefficiency and waste that both the vendor and the market alike suffer from a good supply of good produce at right time. Every article he handles might be cited as an instance. Take *milk*: there should be surplus of milk, for the villager keeps his cow or buffalo and if poor he has his goat, called the poor man's cow. There must be plenty of milk available—enough and overmeasure, but what happens to it, there is none can tell. The children do not get or they would not be suffering from rickets, T. B. or other infantile deficiency diseases. The adults do not get it, or they would not be the skeletons and caricatures they are. The markets, local and regional, are unaffected or there would be a glut if the villager's dairy products were to find their way on to them. The surplus is or

can be made available, thanks to T R U E and his message of Electroculture ; it is up to the villager to realise and capitalise and utilise that surplus. The same remarks apply to the surplus of fruit, timber, grain and all other rural produce.

What, it may be asked, is the villager to do with all his surpluses ? Why the answer is clear: Deposit them against the rainy day or utilise them here and now, as opportunity offers. These deposits may be made (1) under his own floor; (2) under his neighbour's (3) as deposits in the bank. Cooperative Societies or Co-operate Unions or any other Rural Banking Agency or Banker (4) as investments in the shape of jewellery for his wife and daughter (but not children if he values their life !) and (5) endowments of temples; (6) as works of charity, tank, well, platform cattle-trough and the like (7) as service of public utility. plying ekkas, carts, lorries on hire.

Finally the villager's *visible* purse may be slender: but his *invisible* surplus is big. It is up to him to follow the sage counsels given by T R U E and transmute both purse and surplus into live wealth, as bedrock of rural welfare.

IV. His Cult and Culture. From the cultivation of the fields to the cult of the gods and the culture of the spirit is not a far cry, but one steady urge upward downward and away—one long pull and strong pull in the cause of the uplift—material, moral, spiritual

The true cultivation of the fields, which gladden the grateful sight as they laugh into harvest, offers the truest approach to the cult of the gods. The waves of dancing corn form a symphony which elevates to the All Highest. Hugo, than whom no world poet has written so greatly, has, in the view of a master-critic, touched the acme of perfection

where he records the reactions on a simple soul of the sight of a field:

Il regarda longtemps ces formes magnifiques
Que la nature prend dans les champs pacifiques.
Il reva jusqu'au soir !

And all farmers, not necessarily Hugo's stricken Olympio alone, are made that way. They are conservative to the core, because they love their land, East or West, from the deepest fibre of the heart—that land on which they have lived and toiled and moiled, perhaps with no better guerdon than the grave. Torn from his native Highlands and pitchforked on to the playfields of Australia—playfield in a double sense, where farming is a plaything and cricketing a serious business—thus the taciturn Highland farmer comes to word :—

From the lone shieling of the misty island
Mountains divide us and a waste of seas;
And yet the heart is strong, the heart is Highland,
As we in dreams behold the Hebrides
Fair these sweet meads, these mountain scenes are grand,
But we are exiles from our native land !

And this devotedness to dull land is itself rooted in a deeper devotion to the Divine. Much is being written and said in the West, especially in recent times, about peasant literature but nothing has yet approached the heroic simplicity and spirituality like the organ notes in a cathedral of the *Cotter's Saturday Night* by the ploughman poet Robert Burns. The Cotter and his family after a frugal rural meal of "parritch" talk over the happenings of the day and then the Cotter brings out the big Bible "ance his father's pride" and conducts the family worship.

The strains that once did sweet in Zion glide.
He wails (chooses) a portion with judicious care.

And let us worship God he says with solemn air. Now the Indian villager is not backward in divine worship, if he will only do himself justice, nor should he be misjudged by the *genito-urinary* cures with which he defiles his own tongue and other's hearing, because worry is gnawing at his heart, while his Piers plowman is exchanging God's Greetings in the West. He, too, has his gods and they are legion, tribal, village, home, gods, according to his caste, subcaste, *gotre* and the like. He has his Lares and Penates and the women sees to it, even if he is remiss, that ancient tradition is truly satisfied. In lieu of the of the weekly approach to God, in vogue in the West, he makes his *periodical approach* on the one hand and his *daily approach* on the other. As to the periodical approach any school, court, factory holiday will give a full idea, for the religious holidays are many and are religiously observed especially in the Rural Area. He has his *Holi*, *Sheoratri*, *Basant pachmi*, *Somwati Amawas*, *Ram Navma*, *Jeth ka Dashera*, *Raksha Bandhan*, *Krishn Janam Ashtmi*, *Somwati Amawas*, *Anant Chaoudas*, *Dashera*, *Diwali*, *Kartik Puranmashi*. And then the daily approach the pre-auroral awakening, the worship before and during bath, the feasting of holy men, etc.

The parallel with the West goes very far. If the Western villager has his mysteries, moralities and passions, the Eastern villager has his *rases*, *lilas* and *kathas*. To the passion of Oberammergau is opposed the passion of *Ram Lila*. Then, there is the passion of Saints like Surdas.

From saints to heroes is another departure. The West had its jongleurs, troubadours and trovators. The East has its Kathaists.

Who reads of Robin Hood and Randolph East of Chester can appreciate the Lays of Alha and Udal. The

strolling fiddler and the spielman has his Eastern counterpart in many *Sahus* and *Fakirs*. The fahrenderscholast becomes the *Brahmachari*.

Then come the periodical pilgrimages* and fairs. Against Lourdes Canterbury, Rome, can be matched *Prayag Kashi, Gaya, Puri, Dwarka, Mathura, Rameshwram*. St. Bartholomews Fair, Michaelmas Fair and such Western Fairs have counterparts such as Kartiki Fair, Magh Fair, Kumbh Fair.

The cult of the gods, in a comprehensive view, has no reason to be neglected. If only, the villager will standardise his practices and rationalise his agriculture, he will find ample time for the cult of the gods and T R U E should take advantage of that cult.

This is easier said than done: How exactly shall T R U E proceed ? The first step is the hardest. By taking care of little things before they become big, gigantic colossal. Consider awhile the priest who is charged with the spiritual weal and woe of hapless millions: Who is he ? What is he ? Which is he ? Does any one know him ? Or appreciate him ? Or distinguish him from his fellows ? He may be adept at singing love-lyrics or making a *bhang* potion, but is he good at his job ? Ask him : Ask the village headman, watchman, accountant, surveyor, farmer of revenue. They will each and all be taken unawares and re-echo the query: What is his job ? Ask the priest himself and he will be puzzled for an answer.

In England the most richly endowed faculties and benefices are the religious. It is unthinkable that a ne'er-do-well or a man of dubious antecedents expert only in inebriation should take spiritual charge of so many souls without having passed multiple tests of fitness. But in India the position is anomalous and quixotic. How is it to be adjusted ?

There are so many centres of learning which are turning out priests and *pandits* from Pathshalas in the rural area to theological seminaries in the urban Universities. Let the alumni be graded and trained in practical religious worship and let only such as have passed with merit be provided with benefices, living, temple charges and the right to minister to the requirements of worshippers and conduct worship. Let the managing committee and societies forgo their private and personal preferences, abjure their peculiar *pathas* and solemnly swear that they will elect and appoint only the fittest qualified man, regardless of local ties and potent influences and outside considerations, to the most important spiritual charge within their gift. And then having done so the committee or trustees should keep him under strict observation and hold him to rigorous accountability for all his deeds—good, bad or doubtful. Without control and fear of being ousted he is sure to go wrong. If that can be done then T R U E's occupation in this direction shall have gone.

But it will be a long while going. He is not through with the priest yet. For the priest despite his immortal longings is still an affliction of the flesh. The lament, not taunt, is universal. In fact the history of religion and religions clearly shows that schism have been caused more by internal weakness than outer assault. Thus the breakaway of Martin Luther from Papal Rome was the inevitable working of a spirit of righteous indignation at the shortcomings of its priests.

“Ihr paffen isst huehner und trinkt wien und lasst die tiuschen fasten” (you priests, eat fowl and drink wine and let the Germans fast) says the Satirist in Walter von der Vogelweide. And again in righteous indignation he exclaims:

“Auwe der babest its ze jung ! hilf herre diner christenhit” (O Woe ! The Pople is much too young, Help Heaven your Christianity ! “The language is Middle High German, but the feeling is very much older still. And even the great Goethe has not hesitated in his *Faust* to pillory the avarice of churchmen and priests: The scene is that *Mephistopheles*, the Devil servant of *Faust*, has laid jewellery in *Maggie’s* chamber to win her, but a parson comes and takes it away. The scene is as follows [*Nehru’s Doctor & Saint*] :—

WALK.

Meph. In the name of jilted love. In the name of Hell’s first broth :—

I wish I knew aught worse, which I could use as oath!

Faust. What is wrong ? What’s biting you so well ? Such a face in all life I never met.

Meph. I’d like to give myself to the devil straight.
Were I not myself a devil.

Faust. Has a screw in your head got disengaged ?
It suits you like a maniac to rage !

Meph. Just think, the jewel that for *Maggie* lay
A person came and snatched away !
Her mother gets to see the thing,
Gets secretly at once a shuddering:
The dame has a precious sense of smell,
Is always sniffing in her prayer-book well,
And noses each bit of furniture,
Whether ’tis sacred or profane to make sure,
And as to the jewels, she clearly feels,
Not much blessing that reveals.
My child, she cried, unrighteous goods.
Ensnare the soul, devour the blood.
Let this to the Mother of God be given,
It will bring us manna from Heaven.

are vagrants with no veritable means of support and can give no satisfactory account of themselves. One such who had been enjoying His Majesty's hospitality in one of his jails for the second time calmly ascribed his detention to the fact that the police officer concerned was short of cases and he found him handy for improving his own record ! Anyhow T R U E will have to make a census of all such religious persons who really make for spiritual uplift and see they serve the object intended.

For cultivating the spirit, T R U E has many powerful means to hand in the shape of drama, music, dancing, folklore, sculpture, painting. The essential elements are there; the spade-work has already been done ; the task is to co-ordinate, resuscitate, integrate, in a word, get the best out of everything and everyone.

As to drama, there is fortunately no professional talent in the village, but for that the local amateur talent is all the better in appeal and purpose. Precisely such companies enact the *Ramlila* passion for 10 continuous days to perfection. They have their committees, their property, their subscriptions—each village is all the richer aesthetically no less than spiritually for such talent.

As to music, there are bands, Kaithaks, Bhajans Mandlis, apart from the singers in the *Ramlila* and other *lilas*. Then, there are bards and local singers, priests, beggars, who minister to the spiritual wants of the village by providing this food of love spiritual.

As to dancing, this has been largely professionalised and debased, but the art in itself stands high and village talent has to be recognised and encouraged.

As to sculpture, this has solved the problems of eternal youth. Indian temple art is a galaxy of figures infused with eternal youth and beauty. A visit to such a

temple is itself an education and there is not a temple which has not a fair or fairs associated with it.

Painting is undoubtedly in a bad way for the simple reason that the Rural Area has largely been able to do without it. One easily passes from a line to a surface and from a surface to solid. But that is not to say that colourful representation on the floor and walls should be rejected in favour of three-dimensional statuary in the temples. As it happens, there is no village house that has not got some form of painting laid on by deft touches of slim feminine hands.

The need of the hour is to recognise and encourage this essentially domestic art.

T R U E must enlist active helpers in the cause of spiritual no less than any other Uplift. There is in the first place the *panchayat*; in the next, the woman.

With the *panchayat* and the funds it raises within its village circle, the question of expenditure is reduced to a minimum. The workers in the role of *panches* are all unpaid, voluntary and appreciably missionary—using the term in its most catholic sense, and the value of missionary zeal can never be over-estimated. Digressing a while, the missionaries of Christian church have done yeoman service for Rural betterment and their institutions have fared best in the struggle for survival. Two reasons lie to hand: firstly, the continuity of missionary effort through a succession of missionary workers belonging to the same discipline and each succeeding the other and continuing his operations; secondly, the reduction of all expenditure to the irreducible minimum, as the missionary worker are inspired by love of labour and all the overhead charges of inspectorate, travel, supervision are practically eliminated from the budget or do not count. So the *panchayat*, too, will succeed in the measure and to the extent its

personnel is recruited from the right sort of people, and to ask for a handful of genuine workers from the community of all castes and classes numbering a thousand, is not to ask for the moon. *Experientia docet* more than docket and pigeonholes and experience, sovereign mistress over human affairs, knows how to find such proletarians of the right stamp to suit her shifting moods and needs.

The *panchayat* can and will achieve much; but that "much" is little compared with the lot that lies to be done. This particularly holds for that part of Rural Uplift, which is *Female Uplift*. And here rings the slogan *Cherche la Femme !* One need not be dubbed a frenzied *feminist* to call the best agency for uplifting the woman, a woman. This home-truth has to be rammed home until it soaks into the public mind and conscience. Indeed, even in Western countries, woman's effort in social regeneration have not been sufficiently recognised, although they have been crowned with conspicuous success. For, like a good digestion they are taken for granted and given not a care. But what would e.g. village education be without the School-ma'm ? What would sanitary and social service be without the devoted Sisters of Mercy and Charity, who like true Samaritans walk the wards of infirmaries and bestow their self-sacrificing care in hospital and continue all that after-care at home, which the nurse cannot afford to give and which has no counterpart apparent in India ? What would Child Welfare, Better Mothercraft, Domestic Hygiene be without the loving attention of devoted social servants who go from home to home and provide effective ward and watch, which is the surest shield against infection ? This in fact is not wholly or exclusively a hobby for the idle, but is becoming the field work for experienced diplomats of the graduate school, who put in several years doing such laudable social service.

Conditions in India are also favourable and a counterpart of the Western Sister of Mercy does exist. The Sister of Mercy in India is the Indian widow. The care and culture of children, especially girls, in private or public schools is safest in their hands. After all, the widow, especially, the child-widow arriving at womanhood with a clear call to social service and devotion to the needy and suffering, is quite as qualified to function in the rural economy and as effectively, as does a Sister of Mercy in European lands. Both have minds which are "dedicate to nothing temporal." Both practise and preach abnegation and self-denial, both are unsparing in service, where service is wanted; and, if anything, the balance of advantage is with the widow.

Uninformed critics complain that enough teacheresses are not available, but the fact is that teacheresses of the right type are not sought, but of the wrong type which, hide-bound by formalism have, parrotwise, to put their pupils through certain disciplines, which may be good bad or indifferent. If however, a genuine effort is made to comb out a needy, workless widow, who has time and training enough to serve the cause of Rural Uplift, there is not a village but will provide more than its fair quota of such uplifters. Indeed, in the few girls schools that exist under the present stringency, the best teachers are furnished just by those widows who are all self-reliance, patience, and charity, since, for them, the bogey of *Parda* has no terrors, the lure of jewellery and finery no meaning, the fear that they eventually marry off and give up their jobs, no basis. So by harnessing the widow to the yoke of Female Uplift not only shall the cause of the rural woman prosper but also the lot of the widow herself improve. For there-with shall she be fitted into the Rural Scheme, and teach language, scripture, morals, deportment, bienséances no

less than needle-work, domestic science, health and hygiene and the like as one to the manner born, further enlightened by experience and chastened by suffering, to the helpless girls who are in need of such light and leading. That is not to say that the widow has no further needs. Above all, she should have full right to carve out her own career. If she seeks remarriage, there are castes, which recognise it, even encourage it and not necessarily the low castes, although the lower the caste the greater in this respect its advance, but the higher castes, too, are progressing in the direction of widow remarriage. And such, as do not care to remarry, will always find opportunity for doing good in Rural Welfare.

And here once again, the *panchayat* can hold out a helping hand. Usually, the village teachers have educated female relations, who are only too anxious to look after girls and children. The *panchayat* can provide them with accomodation in its own *chaupal*, which is the embryo of a Village Hall. If none such be available, it can arrange for a member or members to allow such girls to meet at their houses exactly as groups of boys are taught in private homes. Where there is will, there is a way and the will is there, but it only needs assertion and the way is clear but it only needs to be trod.

Cherchez la Femme:—So the problem has been presented but how ever shall we approach this eternal, elusive Feminine? Parda has many charming features but the least charming is apathy and where the apathy of the female mates with the conservatism of the male, then truly is *parda* triple-steel carapace. True, *parda* does not obtain in the village. Those who go and know may observe the women gathered on house tops or watching through old nooks and crannies which the true *parda*-bound woman will consider outrageous, but just because of this liberty

of action which has more liberty of inaction the woman keeps herself segregated, insulated, isolated for all time. When in the previous stages the *Sahab* with his assistants went from village to villager expounding the virtues of hygiene, manure-pitting, etc. the woman who was most concerned was the least effected. To parody famous lines :—
 “She least bowed low before the Sahab, Indifference or disdain, she let his minions waste their gab and plunged in sloth again.”

For, the moment the visitation ends, she has resumed her chores, the household sweepings are flung into the street, the little one is loaded with tinsel, the manure is dumped near the kitchen, the cattle are tethered at the door and the whole gamut of horrors gone through. How then, is the woman to be uplifted ?

Women's Uplift is Woman's Sphere on the whole earthball: be it Whitechapel, Greenwich, Moabit, Ghetto or the Indian Scene. Local problems vary, differ in details, but essentials remain the same and prime among essentials is psychology. It is bad psychology and worse manners to foist the unwanted on the unwilling. The propagandist should show no hiatus. The driver and the driven must be of one house. The uplifter must be himself uplifted and have an ideal approach to the females, so without being Don Juan he can glide into their hearts. Then, alone, will he be able to sway them to his moods and to his needs.

To uplift the *male* is good, to uplift the *female* is better, but best of all is to uplift the *child*.

This is admirably conceived in the following lines of the same ploughman poet:

Their masters' and their mistresses' command,
 The youngers all are taught to obey,
 And mind their labours with an eydent hand

And ne'er though out of sight to joke a play,
 And O ! be sure to fear the Lord alway.
 And mind your duty duly morn and night,
 Lest in temptations path ye gang astray,
 And fear the Lord and his avenging might.
 They never sought in vain, who sought the Lord aright.

The young shall be taught to seek the Lord aright through katha and song, dance and drama, music and sculpture painting and ritual ;—and not in the drinking den or the gambling booth, or the smoker's ring or the secret brothel. Drink, dice, damnation—damnation, dice and drink: that is the threefold path to be avoided, whatever the cost. Uplift—material, moral, spiritual: that is the path to be trod.

The be-all and end--all of existence. Without juggling with or delving deep into philosophies a plain question calls for a plain answer: *what exactly is the function of the villager in God's planned economy ?*

Is it to form a human reservoir for the town and eventually to add to its floating proletarian population and aggravate its evils and accentuate its curses ? No ! Is it to be driven hither and thither like live-stock in a stock-yard under the inter-play of spurious forces called learnedly Rural Exodus and Urban Influx ? No !

Is it to be a servitor of the urban area, to serve its pleasures, to raise its food, to live in abnegation and self-denial ? No ! Much rather is it not to live life clean and to live life whole, *spotlessly clean and beautifully whole*—in order that a strong healthy village-body may prove the real strength and saving of the state ?

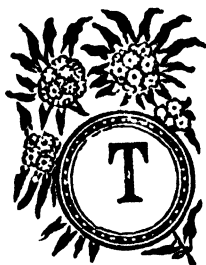
And that is not a day-dream but a practicable proposition How, this survey has shown.

The prospects of T R U E Rural Uplift Education are of the brightest. With the quickening of the national

conscience has come in a real rural renaissance—how to exploit it, guide it, canalise it, control it, is the greatest task imposed on the True Rural Uplift Educator for the day and the morrow. For the rustic of to-day is the Citizen of tomorrow. And a bold peasantry, its country's pride, is the best guarantor of a good citizenry.

DEVI FAIR UPLIFT MOVEMENT AND ITS MECHANISM.

—o—



Three miles out of Mainpuri town, in full typical Rural Area at the bifurcation of the *pakka* road which leads to an old tahsil which is no more and an old rural district which might be no more, stand two ancient temples, named after *Kali Deri* to right and left of a new edifice which is a plaisance of the Raja Bahadur. On the rolling ground with many a turn and twist the river *Esan* describes a gigantic letter N whose blue stands out against the white of equally gigantic letter Y of the *pakka* roadways. In between, are dots of green, or patches of brown, the green dots being the trees on the arboricultured highways and vegetation surrounding the ancient and new structures, while the brown patches are the big broad daubs of arable and stubble which complete the picture. And in the heart of it as a jewelled pendant from the catenary of the blue N to the fork

of the white Y stands the green embowered pavillion of the Durbar as luck-bearing horse-shoe whose wings expand and cascade to either side in the hexagons of shops and the hexagons of stalls.

That is the happy setting for the Devi Fair Exhibition—the customary place. The time is equally of the happiest around after *Holi* under the full moon, *Puranmashi* of good augury, when the new year has emerged out of the multi-coloured water fight and holiday mood of the rival fellow blends into the popular worship of the goddess—the *genius loci*.

Such was the scene, and such the occasion, when Rural Uplift was put into the Mainpuri Devi Fair Exhibition transmuting it into the Mainpuri Devi Fair Rural Uplift Exhibition. The nucleus of the old exhibition was expanded into a pageant ground of 22,000 square yards subdivided into locations for 71 camps with courts and sections by the appurtenant front roads and sanitary lanes. But pageant ground is a misnomer—there was no pomp and pageantry but stern reality subserving at any every step the cause of Rural Uplift.

To this end some preliminary cobwebs had to be cleared, cobwebs in a no unflattering sense, for cobwebs with their intricate tracery have a charm of their own and add to romance, but the dull and drab problems of Rural Uplift cannot be approached so long as such charm ensnares the way, for a mind distracted never gains its end. This means that many items, which serve the delectation of the city-dweller but have no meaning or purpose for the villager, had to go by the board. And in particular where ever there was chance of a clash, the professional element had to be eliminated and the amateur encouraged. Finally, the restricted budget had the last say in every matter.

Among the item scored out so ruthlessly was the *dangal*. This has been so far professionalised that the amateur does not have even a look in. Along come veteran professionals from near and far, mostly far, mace-hunters, who go away with the mace and the prize without a 'By your leave'. The villager is totally squeezed out of the picture and gets as much personal profit to his physique as does a Cup-tie fan in England by sitting and shivering in the air of a foggy November afternoon while the clean-limbed base-ballers show their paces on the diamond. This phase of vicarious sportmanship is not wanted in the rural area and has to be suppressed with a firm hand. So also fell under the same axe hockey, cricket, tennis—good enough sport and exercises for the *elite* of the town but not the proletariat of the village.

Mushairas and *Kari Sammelans* which are also professionalism in excelsis and run away with the major part of the funds likewise took a back seat and finally no seat at all, being held superfluous to present requirements in the Rural area. For the same reasons the high-brow sophisticated dramas popular in towns were not allowed and the greatest gain of all in the interest of rural uplift—all the proceedings at the multiple meetings, conventions, conferences were conducted in the simplest vernacular understood of the village folks who crammed into the available spaces in their hundred and thousands. For Rural Uplift had to be made a near, live issue, not a distant ideal.

To turn from negative caviats and multiplying vetos to positive achievement, every Rural Uplifter had to live in during the Debi Fair days on the Exhibition ground. All the Court Officers, departmental officers and others took up their abode in the city of tents and under canvas lived and transacted their business. This was all to the good,

for the Rural fellow was doing likewise. He had come big distances in the precious bullock carts followed by the self-attached pi-dog (a better model for piety and love than the pelican) he unyoked the animals, settled the cart, made himself at home by the roadside, caring naught for the high and mighty sahab who was squatting equally low under cover of a fabric on the other side of the drain. Truly, indeed, the exhibition was a great leveller of high and low and fostered a spirit of camaraderie.

No wonder, then that with a separate, *ad hoc* court and camp to each activity and a section to each interest the number of blocks so familiar to the uptodate town-planner should have touched 71 and of the stalls, with living-in accommodation for the holders are added the total should top several hundreds.

Most prominent among the sections with their courts and camps, when necessary, was (1) *construction*. The Exhibition had been expanded to four times its normal size and the construction committee had a very heavy programme of conception and execution alike. Thus the long sinuous corridors stretching out behind the main exhibition Hall to secure and house the hundreds of exhibits in the *Fruit Preservation* Section on the one hand and the *Electroculture Yard* in the re-entrant angle in the other to permit of big crowds watching the demonstration at close quarters on the other. All bespoke the zeal and discrimination of the construction committee and when it is remembered that the material at their disposal was neither bricks nor show but only Chatai, or reed and bamboó, exactly what the most ambitious constructor or architect may get in the Rural area. The success of this construction committee in making bricks without straw may be easily gauged.

The Agricultural section merits special mention for was it not living up to its motto, Resugam ! Running

trophies for challenge and competition year after year were being awarded in the shape of prizes of very powerful appeal for the best produce according to the triple tests of quality, variety and utility produced by different categories of farms and the interest aroused exceeded all expectations. But a very special feature of the Agriculture section was the Electroculture stand with Electrocultured produce—fruit, flower, vegetables, cereals and modest demonstrations of sparking and treatment given from time to time. Who would have believed that that modest beginning, that grain of mustard seed so to speak, should within a bare twelve month come to plant and fruit and strike root and spread to the most distant countries in all parts of the world and the publication of research conducted by workers scattered all over the earth-face should go into the second century.

Another important offshoot of the Agricultural section was the Fruit Preservation Section. It was widely recognised that agriculture as such should not pay but subsidiary cultures could still redress the villager's crazy budget, among which fruit got an easy first place. Now, thanks to Electroculture, it could be produced in large quantities—*more fruit, better fruit, early fruit-late fruit-exotic fruit*, but how to dispose of it, preserve it and so save the perishable?

That was the business of the Fruit Preservation section and right earnestly did it come up to expectations. The very long corridor or colonnade with beautiful green lattice work archway facade and long tables and brackets of bamboo and chatai creaking and groaning under the load of hundreds of beakers, flasks, phials, bottles, carafes, jars, martabans, amphorae, in fact all kinds of vessels, receptacles revealing luscious fruits in crystals or syrup or dressing or in anodine prepared to please the palate and eye in a

multiplicity of ways known and unknown to the confectioner's art. The very list of the classifications would enthrall and then appeal. Multi-tinted. amber, gold, brown, yellow, ochre, green, purple, pink, red—cordials, nectars, sorbets, sherbets pick-me-ups were the refreshing drinks which the rural fellow could learn to make for himself at very little cost without stirring outside his native village, for every entry was accompanied by its recipe and true certificate of its composition. Then the actual jams, marmalades, murabbass fruits in syrup or dressing or crystal, whole either halved or quartered or flaked or packed or shown made a very brave show. Finally the grocer came into his own with the innumerable samples of *achar*, *chatney*, *chat*, *khatai* and all the wizardry of spices with a kick and a sting applied to the bouquet of flower, leaf, fruit, vegetable, root, tuber, nut in all the cunning and quaint disguises which lend richness and charm to the simple menu of the vegetarian villager. The Fruit Preserving Section with its Achar Chatni Murabba was a novelty beyond compare an attraction second to none and a pleasure beyond praise.

But there was vastly intriguing comic or tragicomic interlude furnished by the panel of judges and the volunteers from among the enthusiastic public. This interfered with the serious business of judging and almost threatened to reduce it to a farce. To plumb the depths of the fall from the sublime to the judicious imagine, for instance, any sober well-constituted judging and selection committee, in the midst of its arduous functions and their exercise, suddenly impaled on the horns of a dilemma, pushed into a quandary, stricken with judicial paralysis and appealing to the bystander or the passerby to give a decision. Yet such was the ridiculous plight of the panel of Judges. Gourmets, epicures, experts, indeed many a

gastronomer genius when sampling dubious looking messes which obviously had developed fungus, mould, hairy growth, fuzz and converted parts of the Fruit Preserving section into a mycologist's cabinet. But the judging, testing, sampling, was done with rare insight individually or by plebiscite and the prize-winning exhibits with recipe selected for broadcasting.

The *sports section* achieved special prominence as Rural Uplift Agency after the suppression of the English sports which only appealed to the town dilettantes. Indian sports games and exercises were thrust into the breach and came into favour: These were *Kabaddi*, *Atapata*, *Pilili*, *Dand*, *Baithak*, *Mugdar*. The Tahsil committees had held their own preliminary tests and displays and selected their prizewinners and champions and finally the last heats were played off in the Exhibition week. Most important and useful of the event were the swimming contests in the *Esan* river.

Endurance, distance, time, fancy, swimming and above *life-saving* were all the items on the swimming programme. To encourage swimming and life-saving in the Rural Area Water Polo for villages has been developed and will provide every village, which boasts of a pond or a tank or a river with rich, clean, rare, sport. The Rules for all Indian games sports, exercises have been reproduced in the preceeding chapter. The villager was well served.

It will be rightly objected, what about the villagers' wife? Where does she come into the pictures? So far, no where and yet if the male's physique and health call for rest, exercise and recreation, why not also the female's? This introduces the *ladies section* with all its novelties within novelties, wheels within wheels.

Ladies section as understood, conceived, realised, was a cent per cent innovation. To get the ladies together, to

convene the meeting, to organise this team-work was in itself a valuable achievement for Rural Uplift in the shape of female uplift. This exhibition within exhibition with its complicated programme gave good food for thought to the pessimist and the unholy trinity formed by the critic, cynic, sceptic. A few items may be noted here.

Ladies, sports take first place. Who would have thought village women should prove so quick and good and adaptable at sports ? Yet they did so and carried off the prizes, beating the townswomen fairly and squarely.

Cooking competitions proved very popular and the first of this kind to be held any-where. Unless the daily *menu* is to be improved and made more wholesome and appetising at once, it is foolish to expect good brain and good brawn. Actually, numerous useful recipes were secured in the competition when a panel of judges had to sample over 19 best dishes and deserved abounding pity and praise alike for their devotion to duty in making so many gastronomical experiments on their precious interiors.

Girl Guiding, Baby Shows, Child, Welfare, Mother Craft, First Aid, Domestic Hygiene, Homework, Red Cross Ambulance, and Public Health all received the appropriate attention and their special sub-section reflected in little the activities of the bigger section at large.

The General public health section was in itself a *piece de resistance*. It was specially in the charge of the expert in Rural Uplift who had won his spurs and also title, when he took round the *Pioneer Rural Uplift Van* in a lightning tour of the provinces giving 90 exhibition in 48 districts in as many days and each exhibition of the Van was a nucleus of a local exhibition on the spot. This public health section had many novel features which serve the cause of Rural Uplift to perfection.

Monkey-proof house, rat-proof granary, pest-proof room, snake-proof and frog-proof enclosures, heat-proof *kothri* for women and children, bamboo cross-way drain etc. etc, are all devices which cannot be given too much publicity in the Rural area which they help to improve and uplift. The uplift of the *soldier* population was the special care of R. U. Exhibition. The Soldiers' Board had its own court and camp which they decorated with arms, antique and modern, setting up a right military gate. They met together in full strength, discussed the plan for uplift and through their band imparted a military touch to the proceedings.

The *Temperance* Section enacted a thrilling Rural Uplift drama which taught a lesson with smiles and cheers.

For *Scoutcraft*, which threatened to dissolve itself into two warring elements, it was found that a common ideal could still make them cohere and a common ground was found.

For *Amusement* the amusement park was jealously watched and provided with just the right type of fun in the shape of round-about religious films. The individual sections were composed as below.

INDEX.

1	Cattle Show	400	x	200	Yds.
2	Veterinary	100	x	50	
3	Agriculture	150	x	100	
	Ploughing	100	x	140	
	Show room	do	x	150	
	Court and Camp		do	100	
4	Poultry and Dairy	do	x	do	
5	Co-operation	do	x	132	
6	Dist. Board	do	x	57	
7	Municipal Board	do	x	100	
8		do	x	do	

9			
10			
11			
12			
13	Tahr. C. & C. each	100	x 100
14	" "		do
15	" "		do
16	" "		do
17	Jail product	55	x 67
18	Lalsingh Man Singh Indus. School		do
19	Tahsil products		do
20	S. D. O's camps	88	x 96
21	" "		do
22		100	x 125
23		150	x 125
24			do
25			do
26		100	x 125
27			do
28		100	x 100
29			do
30	Dt. Soldiers Bd.		do
31	Dramatic Club		do
32	Temperance		do
33	St. John Ambulance		do
34	Red Cross		d
35 & 36	Public Health	200	x 200
37	Ladies Section	300	x 218
38	Scouts' Camp	66	x 150
39	"		do
40	Construction Camp.	80	x 80
41		100	x 100
42			do
43	Tools and Plants		do

44	Officer in Charge	100	x	80
45	Secretary	100	x	50
46	Police Camp	100	x	100
47	Hospital	50	x	50
48	Post Office		do	
49	A. C. C's Camp with office	100	x	100
50	Intelligence Office	50	x	50
51		100	x	100
52			do	
53			do	
54	Raises		do	
55			do	
56	Distinguished Visitors		do	
57			do	
58			do	
59			do	
60			do	
61			do	
62	Debi Temple	400	x	300
63	Amusement Park	300	x	300
64	Pilgrim's camp	6,00000 sq. ft.		
65	Parking Ground	100	x	200
66	Sports	400	x	500
57	Parking ground	100	x	100
68	"		do	
69	"		do	
70	Conservancy		do	
71	Segregation hut	12	x	10

WORKERS.

1. (1) B. Bhuwneshwari Prasad S. I.
(2) B. Nand Kishore, Cattle Breeding Inspector.
(3) Kr. Balbir Singh, Manager, Mainpuri Raj.
2. (1) M. Mazhar Mehdi Khan, Veterinary Assistant,
(2) Kunwar Jagdish Singh, Chairman, Dist. Board.
(3) Pt. Chironji Lal of Alipur patti,
3. (1) Sardar Surjan Singh, Divl. Supdt.
(2) Pt. Ghansham Tiwari, Agriculture Inspr.
(3) B. Rang Bahadur, Secretary, E. F. G. A.
(4) B. Har Prasad.
(5) Kr. Jagdish Singh Chairman, Dist. Board.
(6) Mr. Vishnu Sharma, Dy. Director of Agriculture.
Lucknow.
(7) Pt. Chironji Lal of Alipur patti.
4. *Dairy*—B. Nand Kishore, Cattle Breeding Inspr.
Poultry:—(1) Rev. Janki Pd. of Bewar.
(2) Sheikh Badrul Hasan.
(3) Mr. T. D. Hyde, Mission. Mainpuri.
(4) R. W. Slater Esqr., Etah.
5. (1). Jagdeshwari Prasad Managing Director.
(2) M. Imdul Hasan, Inspector.
(3) Mr. S. W. Benjamin Supervisor.
6. (1) Jagdish Singh Chairman.
(2) B. Raghubir Singh Vice-Chairman.
(3) Th. Udaivir Singh Secretary.
(4) Th. Mahabir Singh Vice-Chairman.
7. (1) Sheikh Asghar Husain Chairman.
(2) Syad Ausaf Nabi.
(3) B. Kali Charan Saxena.
(4) B. Jagpati Sahai Secretary.
13. 14, 15, & 16.
(1) Syed Ali Naseer Tahsildar Shikohabad.
(2) Pt. Sheo Charan Lal, Tahr. Bhongaon.

(3) Pt. Bisheshwar Nath Sharma, Tahr. Karhal.

(4) Hafiz Abdul Rashid Khan, Tahr. Jastrana

All working as secretaries of their respective Tahsil sub-committees and holding their camps and courts.

17. (1) Dr. A. N. Mukerji, Supdt. Jail:

(2) R. S. B. Ram Prasad Jailor.

18. (1) R. B. Pt. Kharagjit Misra.

(2) Th. Bhawanl Singh.

20, 21, 22, & 23.

(1) K. S. M. Mohd. Usman Khan, S. D. O. Bhongaon.

(2) M. Islam Nabi Khan, S. D. O. Karhal.

(3) Syed Mohd. Mukhtar, S. D. O. Shikohabad.

(4) H. C. Verma Esqr S. D. O. Mainpuri & Jasraaa & O/C Exhn. All working as Presidents of their respective Tahsil sub-committees and holding their courts and camps.

30. (1) R. S. Risaldar Hulas Singh.

(2) Subedar Sher Singh.

31. (1) B. Kali Charan Saxena.

(2) B. Ram Adhin Saxena.

(3) B. Dularey Lal.

32. (1) B. Dharam Narain.

(2) B. Hirdey Narain Vakil.

(3) B. Shiam Sunder Lal Advocate

(4) B. Shiam Sunder Dass Gupta,

33 & 34.

(1) Dr. A. N. Mukerji, Civil Surgeon.

(2) Mrs. R. D. Nehru.

(3) B. Prem Mohan Varma.

(4) Dr. Jagdish Sahai Raizada.

(5) Dr. Shaima Charan Varma retired M. O.

35 & 36.

(1) Dr. A. N. Mukerji Civil Surgeon.

(2) R. S. Dr. S. D. Misra Officer, on Special duty.

- (3) Dr. K. P. Sinha, M. O.
- (4) Pt. Nand Kishore Inspector.
- (5) Pt. Deoraj Misra, S. I.

37. (1) Mrs. R. D. Nehru.

- (2) Ms. Dharam Narain.
- (3) Rani Sahaiba Sujrai.
- (4) Koerani Dan Kr. Odessar.
- (5) Miss Ghosh.
- (6) Mrs. Wallace
- (7) Mrs H. C. Verma.
- (9) Mr. B. Bahadur,
- (10) Mr. Sinha.
- (11) Mrs. Mukerji.
- (12) Mr. Lawrence.

38 & 39

- (1) Dr. A. N. Mukerji, Civil Surgeon.
- (2) Lt. Pt. Hem Chandra Misra.
- (3) B. Dharam Narain Advocate.
- (4) Scout Master Govt. High School.
- (5) Scout Master, Mission High School.
- (6) B. Prem Mohan Verma.
- (7) Mr. S. C. Sarkar.
- (8) M. Mohammad Din Qureshi
- (9) B. Raghubar Sahai Raizada B. P. Scout Association.

40 (1) B. Parshad i Lal Retired Engineer.

- (2) B. Raghbir Sahai Mathur, Engineer, D. B.
- (3) M. Ishtiaq Ahmad, Town Area Overseer.
- (4) Durga Dass Overseer, Dist. Board.
- (5) B. Raghbir Sahai contractor

44. Dr. S. S. Nehru, I. C. S., President and Collector, holding court in camp.

45. Qazi Ibne Hassan, Tahsildar Mainpuri and Secretary Exhibition holding court and camp with his joint Secretary B. Harihar Lal Bhargava, Naib Tahsildar.

46. (1) Mr. Siraj Uddin Ahmad. S. P.
 (1) Mr. Shanti Prasad A. S. P.
 (3) Pt. Murari Lal Kotwal.
47. (1) Dr. A. N. Mukerji.
 (2) Dr. K. P. Sinha.
49. Mr. S. V. Isaacs, Deputy Collector and Assistant
 Officer I/C holding camp and court
50. (1) Pt. Bihari Dal Gaur.
 (2) Pt. Harihar Pd. Misra
 (3) Pt. Mata Prasad contractor
- 54 to 59.
- (1) R. S. Ch. Maharaj Singh.
 (2) B. Madho Narain Modgal, Hony. Magistrate.
 (4) Koushal Kishore Singh Eka with Manager.
 (5) Kunwerani Don Koer of Odessar with Manager.
 (6) Ch. Sarnet Singh.
63. (1) Pathak Vishwanath Pd.
 (2) Ch. Bijey Singh.
 (3) Pt. Oudh Behari Lal alias Lallaji of Kuraoli.
66. (1) S. V. Isaacs Esqr.
 (2) R. S. Dr. S. D. Misra.
 (3) B. Mata Pd. Sinha.
 (4) Th. Brij Bhushan Singh D. I.
 (5) Syed Ali Naseer Tahsildar Shikohabad.
 (6) Pt. Sheo Charan Lal, Tahr. Bhongaon.
 (7) Hafiz Abdul Rashid Khan, Tahr. Jasrana.
 (8) Pt. Bisheshwar Nath Sharma, Tahr. Karhal.
 (9) B. Maya Prakash Gupta.
 (10) B. Kali Charan Saxena.
70. (1) Dr. A. N. Mukerji, Civil Surgeon.
 (2) Bhuvneshwari Pd. S. I.
-

FRUIT GROWING ASSOCIATION.

1. Sardar Surjan Singh, D. S. Agri.
2. M. Zia-ul Hasan, Agri. Insp.
3. Ch. Siaram of Nagla Har.
4. B. Parshottam Dass.
5. B. Rang Bahadur.
6. Pt. Krishna Gopal.

ELECTROCULTURE SECTION.

1. Sardar Surjan Singh D. S. Agriculture.
2. B. Parshottam Dass.

PUBLICITY.

1. Mr. Jai Chandra M. Sc.
2. B. Sado Singh.

LIGHTING.

1. B. Kali Charn Saxena.
2. B. Bakht Bhadur.
3. B. Raja Lal.

FRUIT PRESERVATION SECTION.

1. Ch. Salig Ram Pathak, Retired Collector.
2. J. N. Kaul Esqr., Sub-Judge.
3. S. U. Ahmad Esqr., S. P.
4. Shanti Prasad Esqr. A. S. P.
5. Mrs. Ahmad.
6. Mrs. Shanti Prasad.
7. Pt. Sagar Chand Vaid.
8. M. Mohd. Ahmad Alvi Hakim.
9. B. Mohadeo Prasad R. K.

GENERAL WORKERS

- I. M, Shabbir Hassan, D. B. Reader.
2. B. Bhagwati Prasad S. K.
3. B. Hardeo Swarup, Jdi. Mohr.
4. B. Chhuttan Lal Stenographer.
5. B. Parmeshwari Sahai Nazir Sadr.

OUTSTANDING MOVEMENTS.

SECTION IV. PUBLIC HEALTH COURT.

The construction of the court was commenced on the 10th March and was completed on the 26th March, 1935. The court was divided into the following four Sections :—

Section A. In this a large number of models were exhibited. These models were constructed on wooden boards and had a very striking effect upon the mind of the villager who could easily appreciate the idea behind them.

Section B. This section of the court displayed and demonstrated actual size models and was very important.

Section C. In this a large number of useful exhibits were arranged. These exhibits demonstrated the various aspect of public life, personal hygiene and prevention of disease.

Section D. In this section numerous articles prepared by members of the Junior Red Cross in the Jaunpur district were put up. These articles included material of real and practical utility to the members and consisted of such simple things as inkpots made from clay and scales made from bamboo.

A detailed description of these sections is given below:—

SECTION A.

In this the following models were constructed at Jaunpur and were then taken to the Exhibition:—

1. Dirty Labour Room—In this a small dark room full of all sorts of condemned articles from the house is shown; a broken and shaky charpoy is also shown. This is generally provided for the lying-in room in the villages. Clean Labour Room—All useless lumber has been removed, a comfortable cot provided and two small openings near the roof let in.

2. Dirty *Halwai's* Shop—shows a few *Thalis* containing the sweets exposed for sale. The contents are kept uncovered and are swarmed over with dust and flies. Filthy paper is used for wrappers.

Clean *Halwai's* Shop—Wire-gauze and glass covers have been provided against flies and dust. Clean wrappers and packets of leaves are shown.

Full scales models of trays with glass case and wire-gauze covers.

3. Model of a *good village house* showing:—

- i. Proper ventilation.
- ii. A sanitary well within the house compound.
- iii. A privy situated as far off from the well as is allowed by the space.
- iv. A cattleshed separated from the living rooms.
- v. A model soakage pit.
- vi. Separate accommodation for godown, store room and sleeping room.
- vii. A good verandah.

A bigger model of a soakage pit in a glass case filled with brick ballast and fitted with a sieve to arrest any grease or grit. The sieve is made from an old basket filled with grass into which the drain is allowed

to discharge directly. The grass can be changed whenever necessary—

4. Model of a *dirty well*.

Model of the same *well after sanitary improvements* as follows:—

- i. Construction of a parapet wall sloping outwards at the top.
- ii. An effluent drain leading into a soakage pit.
- iii. A tin shed covering for the well.
- iv. A proper pulley.
- v. Trees and plants in drain.
- vi. Bathing *Chabutra*.

5. A model *Cattle shed* for the Villages—In this the floor is made *pucca*, sloping towards the centre where there is a drain discharging into an old tin canister placed in a pit. The contents of the canister can be utilised in making compost. This is roofed over with ordinary thatch.

6. A *dirty village* with the following defects:—

- i. No ventilation in the houses.
- ii. All wells are insanitary.
- iii. The whole village is honeycombed with rubbish heaps and insanitary pits and hollows.
- iv. No drainage, so that the lanes are filthy.
- v. Dirty village pond.
- vi. Pigsties are inside the village.
- vii. Dirty village school with a dirty compound.
- viii. Insanitary shops of food stuff.

Clean village after effecting sanitary Improvements as follows:—

- i. Proper ventilation for the houses.
- ii. All wells made sanitary.
- iii. The surface of the village site cleaned up; manure heaps stored properly.

- iv. Proper drainage provided. Crossway bamboo drain fixed up at suitable road crossing. Soakage pits constructed. The result is that the village face is clean and healthy.
- v. The village pond has been made sanitary by making the banks deep and straight and free from vegetation.
- vi. The pigsty nuisance has been abated by opening it in the opposite direction.
- vii. The school premises have been improved, proper ventilation provided and a small garden grown on the premises.
- viii. Proper *jalis* have been provided for all food exposed for sale.

Models of trench pattern latrines and soakage-pit type urinals were shown. These are suitable for use in the villages. Both these types were used in the M. D. R. U. E. area. Model trays for itinerent vendors with wire-gauze and glass cases were shown.

SECTION B.

In this the following deserve mention :—

1. Life-size model-house for the villager demonstrating the most effective means of cross ventilation, which were at the same time thief and burglar proof and did not infringe upon the privacy of the house, also a separate kitchen, verandah, cattleshed, and platform for washing utensils, etc. separate accomodation for sleeping and store room and costing Rs. 50/ only for one family of 5.

2. A cheap but effective rat proof godown suitable for big villagers and grain merchants, Cost Rs. 150/- for one of size 10' x 10' x 10'.

A cheap and simple rat-proof granary suitable for the poorest of the villagers. This was made out of the ordinary *Chatai* and *Jafri* plastered with mud and *Gobri*

6ft x 6ft x 6ft. The whole structure being supported on bamboo legs was raised clear of the ground to a height of about 12 inches. About 10 inches from the ground ordinary tin cups were nailed to the bamboo legs inverted. The bamboo legs were coated with coaltar. Thus the upper storing chamber was made rat, damp and ant proof. The roof of the granary is made removable, thus making it possible for the stored grain to be sunned and aired at will. This simple device costs about Rs 2/- only.

3. A *model of a house* was shown in which the following things were demonstrated:—

(1). *Pest proof devices*: (On principles advocated by Dr. S. S. Nehru I. C. S.)

a. Against *monkeys*—In studying the monkey when it jumps on to a roof it was found that it never jumps to the centre of the roof or wall; on the other hand it jumps and clings first to the edge of the wall and then climbs to the wall and roof. Thus, if the edge of the wall is protected, it will be possible to prevent the monkeys from reaching the house. A very cheap but effective material was used. Iron straps which are used to fasten bales of cloth were taken and their one edge was cut into a saw edge. This was fixed to the edge of the wall with the saw edge upwards. It is not necessary to fix the iron straps to the whole length of the wall, but only those places where the monkey is likely to jump from the neighbouring houses, etc, are selected carefully and studded with the straps. The lower edge of the window sills should be tread. Any projecting portion to a height of about 6 feet from the ground should also not be left

uncovered. This device also renders the building thief proof to a certain extent.

b. Against *snakes* and frogs—A spécial kind of frog board was devised from wire gauze and has the following advantages over the ordinary wooden ones:—

- i. Fixes automatically to the door.
- ii. Falls automatically without injuring the legs of any person who may accidentally knock against it while entering the door.
- iii. The projecting margin of the wire gauze at the upper margin is very effective in preventing the reptiles from passing and crawling across or over it.
- iv. It does not prevent the passage of light and air into the room.

(2) *Heat proof roofing*—A double roof is provided with a space of from 1 to 2 feet between the two. The cost comes to about one and a quarter of the ordinary single roofing.

4. The Punjab Pattern *pit latrine*, which is not so satisfactory, was also shown.

5. The U.P. pattern of *trench latrine*, which is better for villages, was also shown.

6. A *model well* with outflow drain was shown. A trough made from an ordinary earthen *Nand* with a round bottom was fixed to the well platform for the watering of the village cattle.

7. An ordinary *pump* actually demonstrated the best means of obtaining drinking water in village. The pump was fixed to a pipe sunk 21 feet in the ground and the public was allowed to make free use of this. At least 50,000 persons must have taken their water from this pump during the Exhibition week. The whole of the

camp also drew their water supply from the same source. A comparison of the well water with the pump water was daily made several times in the presence of the audience and the pump water was always decidedly and visibly superior to the other one. Some 100 enquiries were made by the villagers themselves as to the cost and possibility of a similar pump being fixed for them in their villages or houses.

8. Two kinds of cheap *crossway drains* suitable for the village were also shown.

- a. The *crossway brick* drain, which only needs about 50 bricks can take all load over it and can be easily cleaned.
- b. The *crossway bamboo* drain. This is a drain constructed by laying and fixing two bamboos poles across the road by means of bamboo pegs hammered into the ground to a depth of about 8 inches and 6 apart. This was actually demonstrated and a large number of loaded bullock carts was made to pass over it daily. On one occasion a 2 ton lorry with 20 passengers was passed over the drain safely without injuring it in the least. This drain appealed to the villagers and they made searching enquires about it and quite a number of them seemed to be determined to construct it for their purposes.

9 A *model village tank* demonstrated the following points:—

- a. The banks and the water surface are freed from all vegetation growth. The algæ and other water plants which are removed can be utilised as good manure.

- b. The banks are made as straight as possible and are also made deep.
- c. One bank is provided with steps and is reserved for bathing purposes only. Such useful exercises as swimming and life-saving, can be enjoyed by the villagers in this tank.
- d. The opposite bank is sloped for cattle to come to water.
- e. The remaining two banks are left for excavating earth for building and other purposes. But the banks are allowed to be cut in straight lines only so as to prevent formation of indentations.
- f. The following *practices* are *disallowed*:—
 - i. Washing of clothes and utensils for which places must be set apart at a distance of 50 yards from the tank.
 - ii. Ablutions of all sorts.
 - iii. Steeping of hemp, *Samar* or other wood in the tank.
 - iv. Drinking of tank water.

SECTION C.

In this exhibits were shown on the following useful subjects

A. Cholera.

1. Sample of *potash permanganate* and also *potash permanganate* dissolved in a glass of water giving pink colour was *drunk* in the presence of the spectators to show that it is not at all injurious to health.

2. Anti-cholera *inoculation syringe* was explained.

3. *Essential oil* mixture was shown and demonstrated as a very good medicine for the treatment of cholera.

4. *Living flies* in a tube to impress that flies convey cholera.

5. *Uncovered sweets* with dead flies on it to show that keeping food uncovered in cholera time is very dangerous.

~~Sweets~~ 6. Sweets covered with a wiregauze *chalni* or sieve to show that covering food with the *chalni*, which is available in every village home, is safe.

7. *Gumla* with lime which receives vomits and stools of cholera patients and then it can be buried outside the *Abadi*.

~~and an~~ 8. *Over-ripe* and *under-ripe* fruits, to show that eating such articles is conducive to cholera and should be avoided.

9. Good fruits and vegetables were shown for contrast

10. Badly cooked and well cooked *Puris* were shown for the same purpose.

11. Samples of bad and good *Ghee* were also shown.

12. *Hyool* was shown as a good and safe disinfectant which kills all cholera germs.

13. A hand water pump set up to demonstrate that this is the safest and best source of water supply.

B. Plague.

1. Inoculation syringe—to impress that inoculation is not painful.

2. Rat trap—to show a good device for removing rats only which can carry plague.

3. Barium carbonate and baits made up with it for killing rats.

~~Sample of~~ 4. Sample of kerosene oil emulsion to show that it is a very effective means to kill rat flies and it should be used for disinfecting houses and rooms in which rats fall.

5. A *charpoy* to show that it is safer to sleep on a *charpoy* in plague time.

~~and a~~ 6. A pair of boots and socks—Plague flies generally bite in the legs; therefore by constantly using such wear during plague time their bite on legs can be avoided.

7. Tincture Iodine for use on Bubos.

8. Disinfection syringe.

C. Small-pox.

1 Vaccination outfit to impress that vaccination is a very simple and painless operation.

2. Sample of calf-lymph.

3. Sulphur—to show that burning of sulphur in the rooms where cases of small-pox have occurred clears and purifies.

D. Malaria.

1. Sample of quinine—to show that quinine, 10 grs. three times a day, is a sure cure for malaria, and when taken 10 grs once daily it prevents the occurrence of malaria.

2. Living Anopheline Mosquitoes—to demonstrate that these only can carry malaria and if there are no mosquitoes, there can be no malaria.

3. Living Mosquito Larvæ in a Howdah—to show that mosquitoes breed from these wriggling creatures, which must have water for their existence and hence if there is no water there will be no larvæ and consequently no malaria.

4. Living Chilwa fish in a Howdah to show that these eat up mosquito larvæ and should be reared in each well and tank.

5. Kerosene oil to show that applied to the water on the banks of any tank or pond which has been previously freed of all vegetation, it has the property of spreading and forming a uniformly thin film all over the surface of the tank. This film kills all larvæ by depriving them of air.

6. Mustard oil if rubbed on the body in the evening will keep mosquitoes away owing to its smell.

7. A *charpoy* with a mosquito curtain to show that

sleeping in such a cot will prevent mosquitoes from biting. Anopheline mosquitoes bite during night only,

8. A soakage pit to show that if good soakage pits are provided there will be no collections of water and hence no mosquito breeding.

e. *Personal Hygiene*

1. A tooth-brush—to show that every person must clean his twice daily—once in the morning and again at bedtime.

2. *Datun*—In India everybody uses *Datun* but most of them over-do it. Therefore when used the *Datun* should be well chewed to form a soft brush and then rubbed softly so as not to injure the gums.

3. Cheap soap to show that a good and cheap soap cleans the body quickly.

4. Sample of a clean garment to show that everybody can clean his own garment and should not depend entirely on the *Dhobi*.

5. Sprouting gram to show a sample of cheap and nourishing food. Every villager takes gram which is parched in the *Bhar*. The parching destroys most of the vitamins. But if gram is soaked in water for 12 hours in summer and 24 hours in winter and then kept in a clean basket, it will begin to germinate. It is very nutritious in this condition as it contains the largest amount of vitamin and enzymes while sprouting.

6. A small earthen pot or *Kulhar* to demonstrate a cheap and effective spittoon. It is dangerous to spit carelessly on the streets, walls and floors of buildings and in fact any where other than in a spittoon. Therefore, if such a *Kulhar* is kept ready, sputum can be burnt or buried deeply in the ground. This simple practice will prevent the spread of such dangerous diseases as tuberculosis and influenza.

SECTION D.

In this the following articles prepared by the members of Junior Red Cross were shown :—

1 Inkpots made from ordinary earth and polished cost one pies each.

2. Penholders made from bamboo price 2 for one pice.

3 *Sutli*.

4. *Tat* made from above.

5. Wool spun for making blankets.

6. Blanket woven from above.

7. *Zarband* being knitted on a bamboo frame.

Approximate number of visitors:—

Date	Men	Women	Total
27. 3. 35.	11,000	4,000	15,000.
28. 3. 25.	8,000	3,000	11,000.
29. 3. 35.	7,000	2,000	9,000.
30. 3. 25.	2,500	1,500	4,000.
31. 3. 35.	1,500	500	2,000.
1. 4. 35.	700	300	1,000.
2. 4. 35.	1500	500	2,000.
Grand Total			44,000.

Rural 35,000

Urban 9090

Total..... .. 44,000

LADIES SECTION.

It is a truism but rarely kept in mind that there can be no true Rural Uplift without Female Uplift. The reasons are not far to seek. Women are more backward than men in the rural area and therefore need special efforts at improvement. At the same time, women are not so accessible as men, not so much on account of *parda*

as *parda* does not prevail so strongly in the rural area, a sufficient reason being this that agricultural and domestic operations have to be performed in the open and the village woman who would play the big lady and observe *parda* would be covering herself with a double coat of ridicule into the bargain. Such women as belong to the so-called higher and more affluent classes and can, therefore, pretend to be above all manual work and take to *parda* are so few in the rural area as to be neglected and despised. Another reason for inaccessibility of the female element in the rural area is not so much or at all *parda* as the fact that women's sphere is quite distant and distinct from men's. Where, for instance, a social service worker turns up on a house to house visit in a village, he will find the men-folk idling or dawdling over a smoke or a fire, but the women will be busy with the chores of the hour and inaccessible and unapproachable for that, if for no stronger reason. But stronger reasons are not to be ignored. She is shy, she is a new and strange being, she is conservative to a degree. Her conservatism is a blessing as well as a curse, fault as well as benefit, a virtue as well as a vice, for thanks to such conservatism which has a very thick substratum of wholesome mother-wit and intelligence, she can sense matters which affect her well-being and exercise a discrimination which would be rare even among the learned. And then because of such conservatism or ingrained aversion to all that is new, she has very promising material for the Rural Uplifter, and that is all the more reason, why the women in the rural area should be propaganded all the more pointedly, intensively and effectively. But how is that to be done? True Rural Uplift means Uplift of the True Spirit of Rural India which is the rural woman and the ordinary uplifter is not indicated. The only person who can approach her and uplift her with success must be

persons of her sex and character, in other words, women who are more enlightened and who can afford to spend their time and energy over the uplift of their sisters. Such, then, has been the angle of vision and the line of approach in evidence in the activities of the so-called *feminine section* of the Exhibition. It has attempted something and achieved a lot, but the greatest tribute to success must be judged the sight of a host of country-women participating in the various physical culture sports, exercises and competitions with freshness and enthusiasm, which would do credit to the most sophisticated of towns, women and products of finishing schools.

The special stands organised by the feminine section for the benefit of woman of the rural area, in fact, women in general, were:—(1) *Cooking competitions* (2) *Sewing and Domestic Work*; and (3) *Sports*. 1. The essential features of the Cooking Competition have been explained in a section by itself. Here, it is important to observe that village life, especially, domestic life in the village, can be brightened in no way more than in the cuisine. The villager's *menu* is extremely poor in quality and quantity, and any attempt to improve both with the use of simple articles of food is sure to go a long way to improving health and happiness. Judged from that view-point, the recipes collected and compiled in that section will be readily understood and appreciated and utilised by the village housewife. In addition, another section will claim her attention and that is the Section devoted to Fruit preservation or the Fruit Preserving Section. Here recipes of all the most useful *Murabbas*, *achars* and *chutneys*, crystallised fruit, have been collected after proper medical and gastronomic scrutiny and passed for publicity. Obviously, the villagers' entries were very much less than townsmen's. But this shows all the greater need for placing

the best recipes at the disposal of the village housewife. It must be remembered that the village housewife is not altogether circumstanced as the town house wife. The latter is assured a monthly income or food budget on which she operates with the greatest possible care, thrift and general attention. Consequently, she has sufficient time to attend to the household duties, chief of which is work in the cookroom. She and her daughters can attend to the daily *menu* with its ordinary and extraordinary dishes like a connoisseur or an artist and fabricate dishes which are a feast in themselves. On the other hand, quite to the contrary, the village housewife has neither the time nor the energy nor the funds wherewith she could emulate her town sister. This needs no elaboration ; he who runs may read and see for himself as he passes the door step of the village home. Farming operations, varying with the needs of the season, and the calls of groups but always increasingly insistent claims are the first charge of her energy and time. How many of us idlers and curious saunterers and philanderers have not seen sturdy a village wife manuring a field by broadcasting the richly treasured manure from a basket held with robust arms, high over the head and swung around itself to spill the manure far and wide. That bodily action, even if undertaken in an aesthetic way was for exercise by the ordinary person would soon tire him out, but the village wife does it as to the manner born which she is. Then sewing, hoeing, kibbling, weeding, reaping harvesting, threshing, attending to the cattle and the numerous farming operations occupy her most of the time. Thereafter, she has to do all the household drudgery which leave her still less time to attend to the kitchen. Obviously, in such circumstances nothing but the coarsest meals are prepared and the home fires are lit once in 24 hours and stale food figures repeatedly in the menu. Why

such food can be consumed by all and with relish is explained by the fact that the village kitchen is served by the best *chef* in the world *chef* Hunger. If, now, simple recipes for dishes, relishes and drinks are placed at her disposal, and she is assured that they do not take up too much time, there is no reason why she should not avail herself of this opportunity of adding to the richness and variety of the daily fare.

Moreover, there is a wider aspect : Village people are wonderful marketing officers. Circumstanced as they are and driven to eke a livelihood out of the products of the soil and the produce of the farm, barn, yard and house, they know how to prepare paying articles and sell them off at a profit. A casual glance at a marketing day in a village or town will convince the most non-observant townsman how women laden with faggots, grass, straw, dungcakes, bamboo etc. which may all be comprehensively termed the bye-products of the village economy, walk their accustomed way to market, squat on the way-side *patri*, pay a pice or two as *patri* dues, sell off their articles at a tolerable profit and return comparatively satisfied to their home. The same woman who has taken to making home dishes and relishes such as *Achars*, *Chutneys*, *Murabbas* and *Sharbats* in accordance with the best approved and public recipes will find it very much easier to convert the surplus fruit and vegetable growing on her husband's grove or vegetable garden and capitalising what would certainly have gone to waste. Such a village woman will therefore not only add to the joys of her own *menu* but also to the variety of others'. Thereby, also the vital problem of general international and Indian economy, the marketing problem will have found a partial but at the same time universal solution. At any rate, the first step towards

such a solution will have been taken without an effort. Marketing officers, functioning as high-powered executives in tall urban buildings, will not realise what a valuable co-worker they will have found in the homely village woman towards True Rural Uplift.

Sewing and domestic work. In the village woman's routine, farming operations come first and have been dealt with above. Next come household duties or domestic work. Sewing calls for special notice. Rightly to understand the place of sewing in the routine, one must examine what article or material is there which actually needs sewing up. The men-folk require coats and shirts; the women require blouses and the children of all ages require a few fancy articles of clothing. Consequently, willy-nilly the village woman has to take up sewing as such. The village tailor is pre-occupied with other custom and his charges are exorbitant. In any case, she plans out and works up small articles. Sewing is very simple and she can devote her spare time increasingly to sewing and so prepare the ground for cottage industry. Already in many villages, articles of cottage industry prepared by villagers are available and have found room in exhibitions. Elsewhere, depots of village industries and handicrafts have been set up. Once the foundation is laid the superstructure can be erected in accordance with local taste and requirement. Here, again, one sees where True Rural Uplift comes in.

(3) It may be asked what has the village woman with so many pre-occupations got to do with *sports*, and frankly the answer may run so:

As things are, practically nothing. Sports and exercises one must imagine a simple yet settled means of uplifting the village woman, of taking her back to the days.

and places of her childhood, when she as a young girl, was in every respect as active, as sportive and as wide-awake as the village boy. If, now, village sports can be organised and the women grouped and looked after in their own sections, there is no reason why they should not respond as favourably as the men. Actually, in the feminine section of the Exhibition different Indian sports and exercises were tried with conspicuous success and it was a revelation to see the misprized rustic woman get the better of her urban sister. The *materiel*, especially the feminine *materiel* in the Rural Area, is very promising. It only needs to be looked after and moulded to the Rural Uplifter's will.

AGRICULTURAL COURT.

Agricultural exhibition was held from March 27th to April 2nd of 1933 in Devi Temple grounds situated on the Mainpuri Etah road.

The object was to bring home to the cultivator the improvements being effected in the art of Agriculture, whereby he can improve himself. Demonstration of improved Agricultural practices this year was on much better scale with the following branches:—

1. Agriculture.
2. Gardening.
3. Electro-Farming.
4. Agricultural Engineering (Well boring.)

Simple, economic and improved modern methods of Agriculture useful to all classes of landowners, big zamindars, cultivators and ordinary tenants were demonstrated daily in. Thousands flocked to the Agriculture Section every day.

These demonstrations dealt with the different aspects of Agricultural problems and were mostly in the homely

language of the people. Special attention was paid to the avoidance of flowery language. These demonstrations assumed the form of:—

(1) Working of different types of improved ploughs such as Victory, Punjab, Gurgaon A. T. Turnwrest, Watts Plough & Gurjar plough. *Gurjar* plough is for poor cultivators the best of all the improved types of plough being simple, economic, efficient, and can be worked by an ordinary pair of bullocks, price of complete plough being Rs. 8/-. Other ploughs are more special purpose ploughs, expensive and suitable for the purse and bullocks of richer class of cultivators.

(2) Demonstration of different types of harrows, such as Lever harrow, spring lined harrow, Madras harrow Triangular harrow, Acme harrow, etc., Lever harrow is the best and most useful implement. It is used for a variety of work.

a. Preparation of soil for sowing by bringing up the clods which can be crushed with the plank

b. To bring up bigger clods to the surface to be subsequently broken by *patela*.

c. To mix up seed after sowing by broadcasting.

d. To break the crust, which is generally formed after irrigation or rain over a sown field and prevents the young plants from growing and coming out to the surface.

e. For airing the soil and preserving moisture underneath.

f. For hoeing, specially rabi crop.

g. To collect weed from ploughed field.

(3) Working of the different types of interculture implements as Mc. Cultivators, Cawnpore Cultivator, 11 teeth Cultivator, Tiphara, Akola Hoes and Forks.

Akola Hoe is the bullock, power hoe—being simple economic and efficient. A pair of Akola hoes is easily

worked by one pair of bullocks and two men. Its price is Rs. 6. It was very much appreciated and admired by the cultivators who purchased many Akola Hoes during the Exhibition.

(4) Water lifts such as Persian wheel, hand pump, Chain Pump, Baldeo Bulti and water screw. Persain wheel is a good bullock power lift up to 30', Baldeo Balti for 3' to 4,' lift screw for 20'

(5) Levelling of fields by Leveller. (Karha) This is used with a pair of bullock and removes much more earth than can be removed by any method.

(6) Threshing by Norag Thresher.

(7) Maize Shillering by hand-power machine.

(8) Grain Kibbler.

(9) Chaff cutting by hand-power machine, It is a very useful machine even for ordinary cultivators. It cuts very fine and regular chaff as compared with hand Gandasa. Two men can chaff about 20 maunds of fodder in a day by a small type of machine.

(10) Sowing of Kharif crops like ground-nut, sugar-cane, maize etc, in lines was demonstrated with the seed-drill and the facility of hoeing with bullock power demonstrated with Akola Hoe.

(11) Sugarcane cultivation. Different stages and practices in cane cultivation were shown:—

(a) Fallowing for sugarcane.

(b) Hot weather cultivation,

(c) Use of *sana* for green manuring, for sugar-cane in Kharif season,

(d) Method of green manuring, with *senji* in Rabi.

(e) Trench preparation and hoeing and manuring at the proper times.

(f) Selection of cane. Its cutting for sowing.

Method of sowing. Different methods of sowing of sugarcane:—

1. Trench sowing 2. Flat sowing in lines as against *desi* method were shown and their economic superiority for facility of hoeing, conservation of moisture, less expenses and high yields were explained.

Method of interculture. Use of Akola hoe with bullocks was demonstrated as against *Khurpi* and its superiority in financial economies, proper control of area, preservation of moisture was demonstrated and explained.

Earthing. Method of earthing, time for earthing and its advantages for saving the cane from lodging, which deteriorates very badly in such lodging, was explained.

(12) Method of making compost manure was shown in all stages, its benefits to the cultivators for utilising all his rubbish to increase the supply of his land and his income, and improving the sanitary conditions of house and village.

(13) *Making of urine earth and its utility.* Cultivators generally neglect this valuable source of income, make no use of it, allow it to escape to the village tank to contaminate their supply of water.

(14) Improved method of *Gur*-making in improved Maglashan pan and furnace in comparison with *desi* system.

Gardening. 1. Lay-out and planting of garden in square or hexagonal system was shown, 2. Grafting, 3. Linting, 4. Budding, 5. A rare sample of budded mango was exhibited, 6. Different gardens tools were exhibited.

3. *Electric treatment* of plants. Broomcorn and its cottage industry, 4. Method of boring and making tube well. Posters giving detailed description of crops

implements and manure and agricultural proverbs were pasted to enable visitors to gain full knowledge of such article exhibited.

Departmental exhibits from the following sections were entertained and their use and superiority was explained to the public.

Economic Botanist to Govt. U. P. Cawnpore working on cotton, barley and wheat. Samples of cotton C. 520 and 402 showing their balls, lint, yarn and cloth etc. Their comparison and characteristics are given below.

Cotton C. 520.

a. Sowing time is end of May

b. Seed rate is 58rs a acre.

c. Habit bushy.

d. Early variety.

e. Fibre is better than *desi*.

f. High yielder with good percentage of lint.

g. It should be sown in good moisture.

Cotton C. 402

Sowing time is 15 May to 1 June.

Seed rate is 8 seers per acre.

Habit erect therefore lopping at the growth of about 9 inch is necessary.

Ordinary type.

Fine fibre, which helps in making fine and thin cloth, hence it fetches good prices in the market.

Good yielder and its P. C. of lint comes to about 36%

The field should be flushed and prepared well and then again flushed for sowing.

II. Economic Botanist to Govt. U. P. Cawnpore working on oil-seeds, Samples of ground-nuts linseed, mustard, rape and *Juar*.

III. Plant pathologist to the Govt. U. P. Cawnpore

IV. Entomologist to the Govt. U. P. Cawnpore Samples of cotton pink worm.

V. Govt. Gardens Lucknow. Samples of the following:—

- (i) Mango seedling.
- (ii) • A badly injured mango plant.
- (iii) An ideal mango plant.
- (iv) A badly injured mango plant which should not be purchased.
- V. One-year old budded mango plant.
- VI Khatta Seedling.
- VII A four-month budded orange plant.
- VIII A budded orange plant showing that all shoots below the budded should be removed
- IX A Guava Seedling.
- X An in-orchard Guava plant.
- XI Kagzi seedling one year old.
- XII A lichey plant.

VI Taj Gardens Agra. Sample of fruits instruments and tools of gardening, charts and posters showing different improved methods of laying out of gardens, irrigation, grafting and method of planting.

(2) Model of Mainpuri District showing private farms, number of improved implements in use and quantity of improved seed sown in each tahsil,

(23) Magic Lantern Lectures with Gramophone.

(24) The Part of Agricultural Inspector played in the Rural Uplift Drama explaining advantages of improved implements and seeds, hot weather cultivation, sowing crops in lines and hoeing by Akola hoe, was shown. It was appreciated by the public.

(25) Camel use in Rahat Cane, Crusher, ploughing and inter-culture etc.

(26) Leaflets and pamphlets were distributed to the public free of cost, showing the advantages of improved seeds.

(27) In order to draw the attention of the public towards Fruit Culture leaflet **Fruit is money** by Dr. Nehru was distributed widely and a meeting of the Fruit Development Board was held on the 29th of March 1935 in Darbar hall presided by Dr. S. S. Nehru I. C. S. Collector, Mainpuri, in which a large number of zamindars and cultivators were present. The aims and objects of the meeting were explained to the gathering by S. Surjan Singh Siddhu M. A. B. Sc., Divisional Superintendant of Agriculture, Mainpuri, and Dr. Nehru. The lecture delivered by S. Surjan Singh Siddhu was very impressive which encouraged the public very much. Out of the gathering, 50 gentlemen became members of Fruit Development Board at once from the public. We are really much grateful to it for creating a new activity in the district. Office bearers were elected and the meeting dispersed with the hope that garden owners would take keen interest in the improvement of their orchards.

(28) On the 30th of March a meeting of Agriculture Association was held under the presidentship of Dr. Nehru. The History of the Association was told by Chiranji Lal Honorary Secretary of defunct Agriculture Association. Lectures were delivered by Dr. Nehru and S. Surjan Singh Sahib Siddhu, Divisional Superintendent of Agriculture, for the improvement of cultivators.

(29) To encourage cultivators to take interest in learning ploughing by improved ploughs and ploughing and their fitting etc. Sports were organised and prizes were awarded to the winners. There were 100 competitors for plough competition and 82 for ploughing fitting race.

The general and special features including novelties. During the Exhibition under report seperate stall were provided for the exhibits of private farms of different

types to judge their produce separately. The exhibits for the Agricultural Department including seeds and implements etc. received from different Sections were also arranged separately. The lying out of Court and Camp was done in a very striking way that required no artificial decoration by hunting etc. The decoration of exhibition was quite natural.

A separate court was provided for *Electrocultural Produce*.

Electrocultural Section. This Section displayed the use of Electricity applied to Agriculture and Gardening. The methods shown included (1) Running various Agricultural machines by getting the current from the main or from engine and dynamo (2) Dr. Nehru's simple methods of Electrocultural Current from the main applied with Violet Ray apparatus either simple rays or rays with sparks for one minute for treatment of individual plants or collection of seed. Spreading the seeds on a metal plate and sparking the plug, (b) spreading as before and moving the spark over the heap. Sparking apparatus consisted of simple induction coil and battery and motor-car ignition plug.

Tickler for pumping in electrified air to plant, soil and plant and soil used on a small scale with cycle inflator and on a large scale with a petrol tractor.

Pocket dynamo for delicate flowers and buds.

Using electricity and magnetism of atmosphere and the Earth:—These methods consisted of wire netting used as jacket, apron, collar, border, cradle, bed with or without aerial and single aerial for deceased, backward and defective plants (insulated or inground). These treatments accelerated the growth, gave profuse and early flowering and fruiting, imparted energy and greater life to plants. They have also proved efficient in combating the following pests and diseases : Pink ball worm in Cotton, Rootrot in

Cotton, Leefturl in Tomatoes and Chillies, White Ants in Canes, rust and Smut in wheat and barley etc.

A large number of samples of treated and untreated plants by the above methods by private growers were displayed, showing definite superiority of the treated over the controls in the following:—

Chillies, Cabbages, Knolkhol, Brinjals, Gourds Karela, Phlox, Petumas, etc Samples showing the cure in roses and Papayas at Nagla Har and Ghursahaiganj were very interesting as in the former flowers were very profuse and bigger in size by simple jacketing.

Broom-corn:—It is a variety of sorghum which was introduced in this country by Dr. Nehru from Italy. The parts of Broom-corn have great utility and these were displayed as under: seed with sheath (hence immune from evils) which is edible plant and leaves used as fodder; Pulp used for paper making. Panicles about 3ft in length and are natural broom used as brooms ropes, baskets, chicks and brushes and brushes and kuchis. These show that its introduction in India is sure to give rise to a new Cottage Industry.

This court was supervised by B. Parshotam Das Agriculture Superintendant Rai Bareli who explained everthing clearly to the visitors. A new invention of water lifting appliance named Nehru Persian wheel was also demonstrated.

A separate stall for fruits and vegetables exhibited by Ch. Brij Behari Lal of Mirgawan Ki Garhi Distt. Farrukhabad was the prominent and attractive demonstration to people to exhibit their produce in a proper way.

New Experience. During the exhibition the visitors from other districts Farrukhbad, Etah, Agra and Aligarh etc. came in greater number with

keen desire to see the functions of the Agricultural Exhibition and spent most of their time in learning to improve their conditions by adopting improved methods of Agriculture. Exhibitors should put up better appearance by demonstrating things and practices useful to all types and classes Agriculturists in a way more attractive by explanatory to them. They should be attractive so that they desirously run to them and explanatory so that they understand them easily. The practices demonstrated should be so simple that any cultivator can learn them easily and adopt them for his good and they are within his purchasing power. Good use of pictures should be made to demonstrate the different useful agriculture practices in relation to the inferior indigenous practices. Such beneficial dry practices as composing should be made more attractive to be learnt and followed by the cultivators to be of substantial use to them.

More staff should be available for exhibition days to explain at the things to all those who are desirous of learning it.

Aproximate number² of visitors daily. The visitors were specially attracted by this Section and there remained a good gathering from early in the morning till late in the night. Total number of visitors who visited our Section during the exhibition period is expected about, 1,00,000 including 75,000 Rural and 25,000 urban. Out of the total number of visitors about 20,000 were women and rest men.

Number of prizes recommended for award and value. One thousand Agricultural exhibits from every part of the district excluding departmental exhibits. One hundred and thirty five prizes of the total valuation amounting to Rs. 400/ were awarded to the cultivators for the best agricultural exhibits including :—

- (i) Best Agricultural Produce.
- (ii) Tools and implements.
- (iii) Agricultural Operations.
- (iv) Electro Farming.
- (v) Broomecorn.
- (vi) Fruits
- (vii) Vegetables.
- (viii) Flower.
- (ix) Garden practice eg. building, grafting.

Besides these one rifle, one D. B. B. Gun and one sword were awarded on the best produce of private farms paying more than Rs. 5000/- as Govt. Land Revenue, paying more than Rs. 1000 as Govt. Land Revenue and cultivating, paying less than Rs 1000/- as Govt Land Revenue respectively.

The above prizes were awarded to the following :—

1. R. S. Maharaj Singh of Bahraul Rifle.
2. Ch. Siya Ram Manager Better Farming club... ..
Gun. D. B. B. L.
3. P. Bala Prasad Kiry hara N. Harr . Sword.

NAME OF THE PROMINENT WORKERS OFFICIALS AND NON-OFFICIALS

1. P. Ghansham Tiwari, Agriculture Superintendent,
Mainpuri.
2. Mr. Afsaryar Khan, Inspector of Agriculture
Mainpuri.
3. B. Parshotam Das, Agriculture Superintendent
Rai Bareilly.
4. P. Baboo Ram Dubey, Agriculture Inspector.
5. P. Madho Narain Sharma, Agriculture Inspector.

Judging of the private farms produce was very kindly done by Mr. Vishnu Sharma, Assistant Director of Agriculture U. P. Lucknow.

No doubt every possible help was given to us by all the workers of the exhibition, we are specially thankful to the following:—

1. Dr. S. S. Nehru I. C. S. Collector Mainpuri.
 2. Mr. Harish Chandar Varma S. D. O. Mainpuri.
 3. Qazi Ibn Hasan Tahsildar Mainpuri.
 4. Tahsildars Jasrana, Shikohabad, Karhal and Bhogaon.
 5. Mr. Harihar Prasad Bhargava, Naib Tahsildar Mainpuri.
 6. Ch. Siya Ram of Nagla Harr.
 7. Mr. Azaizuddin of Shikandarpur.
-

FRUIT PRESERVING SECTION.

The genesis of this wholly novel Section must be clearly explained if its fundamental importance in the rural economy has to be borne in mind and this powerful engine for Rural Uplift put into operation. Nowhere is agriculture as such paying but everywhere subsidiary cultures, peas, bees, pigs, poultry, and the like are helping to keep the farmer's head above water and pride of place in such safety side-industries should be given to Fruit-culture. The reasons are clear :—

Fruit is easy money, while agriculture means farm labour and activity all round. A fruit tree requires little attention. You plant the tree; you wait and let it grow; you undertake the minimum of ward and watch, care and caution, and when the time comes, you gather the fruit. The pests are not very obvious, the diseases are not pandemic, marauding birds, beasts and men are kept out ; and the fruit is collected as it drops into your lap.

Its disposal is very simple and without any preliminary or parallel, or subsequent gambling or futures or

sattus or speculations in any shape or form, your fruit becomes cash. You keep what you want for your home. You sell the surplus to the fruiterer or fruit-grower or *Kunjra* and he does the rest. As small cottage industries, being as on a large scale commercial occupation, fruitculture pays all along. No garden but can have fruit trees, for pleasure and profit, for shade and fruit, and if you shirk the trouble of even looking after your fruit trees, and the parrots prey on your mind and the swallows sour your soul, and the beetles bump into your inner peace, and the caterpillar and the fauna and flora which batten on fruit, dry leaves, buds and fruit worry you too much, why then you give the whole cultivation on hire to the *Kunjra*, which he will take on your terms, while on no terms he may be willing to take your flower-beds or corn-fields.

Now fruit is perishable and the facilities for cold storage and transport are simply not available. How is this perishable article to be made less perishable or converted into cash? Clearly by the methods examined, tested and recommended by this Fruit Preserving Section; fruit surplus to requirement can be easily converted into (1) *Murabbas*, (2) Crystallised fruit, (3) *Achars*, (4) *Chutneys*, and (5) *Sharbats*. The above is the vertical arrangement of exhibits. The following is the horizontal arrangement of exhibitors 1 *Professional* (i) *Local* 76, (ii) *Outsiders* 21, (2) *Amateurs* (i) *Urban* 120, (ii) *Rural* (a) *Zamindars* 21. (b) *Kisan Nil*. The actual figures for the exhibits recommended in each case are:—*Murabbas* 54, *Achars* 96, *Chutneys* 40, and *Sharbats* 48. Total number of Exhibits amounted to 238 by various tahsils of this district and Farrukhabad district as follows:—

Tahsil Mainpuri 133, Tahsil Bhogaon 21, Tahsil Shikohabad 24, Tahsil Karhal 30, Tahsil Jasraua 9, Farrukhabad 21, Total in all 238.

This was by far the largest stand in the Exhibition extending to a quarter of the hexagon. It also proved the most popular with all types and elements of the population with young and old on the one hand, and urban and rural on the other.

Judging and selection was not an easy matter. In fact, it presented difficulties beyond conception. A strong panel of judges is comprised of medical men, in the first instance, to make sure that the articles to be tested and tasted were not unfit for human consumption. It is notorious that mildew, acidity, fermentation and many other chemical and bacteriological processes are easily set up in this form of comestible and no precaution could be omitted to ensure the edibility of the article. Next came the question of taste and appeal to the palate. For these relays volunteers from the general public were called up and 5-10 such volunteers of all ages and classes were asked to give their concurrent or as nearly concurrent finding as possible. Then and then alone was an article passed as good, very good, very excellent on the one hand and poor very bad on the other.

The whole object of this Exhibition was to show that the fruit which is grown in the village or which should be made to grow in ever increasing manner as adjunct to agriculture can be easily converted into less perishable article and sold in the market. Whoever, zamindar or *kisan*, has his guava grove can easily utilise his own cane juice and so make guava jelly or mango gem or the like. Whoever has his lemon or sugarcane grove as vegetable garden can easily prepare *Achar*, *Chutney* ad-lib.

Prizes were awarded for (1) for articles (2) for recipes. In fact, no article was admitted for Exhibition unless the recipes accompanied it. Some professionals stood on their dignity and declined to deliver the recipes but; when faced

with the possibility of elimination they gave in and supplied the missing recipes as well for prizes given for (a) Novelty (b) Variety (c) Utility. (a) Obviously, the more novel an article, the greater its chance of catching on. This Exhibition showed a very large number of quite novel articles under each head. (b) As to variety, obviously a villager or Zamindar who can show the greatest variety in his exhibits will also help to utilise all the fruit in his grove most effectively. (c) As to utility, it is clear that certain fruits are most prized and therefore more useful than others, hence it will be more useful to convert them into any of the above forms of preserved fruit.

A word as to the *personnel* of the committee is indicated. This comprised officials and non-officials as usual and also the Medical Officer of Health, a *Hakim*, a *Vaid*, in particular, so that the Public Health point of view which insists on great consumption of fruit and the exponents of the indigenous systems of medicine which lay great store by preserved fruit should be fully represented. The most important prize-winning recipes which have been picked out for Rural Broadcasting are as follows:—

Prize No.	Name of preparation.	Recipe
67.	<i>Murabba Bail</i>	Pulp of Raw <i>Bail</i> (cut into slices) 2 seers Sugar 1½ seers. Boil the pulp in water and then let it dry a little. Prepare thin <i>chashni</i> of sugar and dip the slices in it.
68.	<i>Murbba Karonda</i>	<i>Karonda</i> ½ Seer } Prepare as Sugar 1 Seer } above.
69.	<i>Murbba</i> of sugar cane.	Skinned slices of sugar 2 seers; lime water sufficient to dip them alum 1/10 chatak Sugar 3½ seers.

Place the slices in lime water for 24 hours. Prick them with a fork and boil them in a solution of Alum and Nausadar with water. Wash them with pure water 10 or 12 times and let them dry. Then cook them twice with one seer of sugar each time. Prepare *chashni* of $1\frac{1}{2}$ seer sugar and dip them.

70 *Achar Gobi* flower.
(Cauliflower)

Gobi flower cut into pieces 1 seer

Salt $\frac{1}{2}$ ch.

Haldi (Turmeric) $\frac{1}{2}$ ch.

Red Pepper $\frac{1}{2}$ ch.

Rai (mustard) $1/5$ ch.

Hing $1/60$ ch.

Mustard oil—quantity sufficient

Boil a little *gobi* flower and then let it dry. Powder the other articles and mix them in the flower. Place it in a *ghara* and pour sufficient oil to cover the whole of the flower.

71. Mixed *Achar* in vinegar. The articles are dipped in vinegar and salt and *peper* is added to taste.

72. *Achar Tentis*

Tentis 1 Seer

Salt $1\frac{1}{2}$ ch.

Mustard oil quantity sufficient

Place the *tentis* in water for week. Then dry them and mix the salt. Place them in

73. *Achar Kashiphal*
(Pumpkin)

oil. Pepper may be added to taste.

<i>Kashiphal</i> slice	1 peer
Salt	1 ch.
Turmeric	1/4 ch.
Red pepper	1/5 ch.
<i>Rai</i>	1/5 ch.
<i>Methi</i>	1/10 ch.
Vinegar	sufficient quantity.

Boil the slice a little and dry it. Powder the other articles and mix the slice, then place them in vinegar.

74. *Man-hurau chutney*

Ginger	2/5 ch.
Black pepper	2/5 ch.
<i>Pipal</i> small	1/5 ch.
<i>Podina</i> dry	2/5 ch.
Red pepper	2/5 ch.

Dhania (coriandar seed)

fried	2/5 ch.
<i>Zira</i> fried	2/5 ch.
<i>Alubukhara</i> pulp	2 chs.
<i>Adrak</i> (green ginger)	4 chs.
<i>Kishmish</i> (currants)	2 chs.
<i>Amchur</i> katthi	2 chs.
<i>Chhoara</i>	2 chs.
Salt	1 1/2 chs.
Vinegar	8 chs.
Ark Nana	6 chs.

Place the *Alubukhara* pulp in vinegar for 12 hours and then pound it. Make a powder of the other articles except *Chhoara*, *adrak* and *kishmis*

and mix them in it. *Kishmis* should be mixed as a whole and *Chhoara* and *Adrak* in finely cut pieces. Salt and pepper can be mixed according to taste in larger or small quantities.

75. *Achar Shaljam* sweet
(turnip)

<i>Shaljam</i> slices	5 Seers
Salt powder	2 chs.
Red pepper powdered	1 chs.
<i>Rai</i> powdered	2 chs.
<i>Lahsun</i> finely cut	2 chs.
<i>Chhoara</i> finely cut	4 chs.
<i>Kishmish</i> currants	4 chs.

Slightly boil the *shaljam* in water and then dry it. Mix the other articles in it and place it in the sun for a few days. When the slices become sour and sharp then place them in thick *chashni* of gur or sugar. This Achar lasts very long and *chasni* can be added whenever becomes less.

76. *Unutney Nibu* (Lemon)

1 Juice of 25 lemons.	
2 Sugar	1½ seers.
3 Slices of <i>Adrak</i>	2 shs.
4 <i>Kishmish</i>	2 chs.
5 Slices of <i>Chhoara</i>	2 chs.
6 Black Pepper	2/5 chs.
7 Seed of <i>Cardumum</i>	3/5 chas.
	(large)
8 Salt <i>Sendha</i>	3/5 chs.

9 Black salt 1/5 chs.
 10 Zira (dry) 1/2 ch.
Chahshni to be made of sugar
 on mild fire. Nos. 3. 4. 5 to
 be mixed, while on fire.
 When two *tar chashni* is ready,
 it should be taken off the fire
 and other things mixed as
 powder. The *Chutney* will then
 be ready.

77. *Achar, Karela Sweet.*

Karela (skin removed) 1 seer.
 Salt, powdered 1 1/2 chs.
Haldi, (Turmeric)
 powdered 2/5 chs.
Sonf, powdered 1 ch.
Dhania 1 ch.
Rai powdered 2/5 chs.
Gur according to taste.
 Vinegar Quantity sufficient
 Mix some salt in *karela*
 and dry it in the sun. Then
 mix the above articles and
 place all in vinegar which
 should be sufficient to dip them.
 One *chatak tamarind* and
 one *chattak khatai* can also
 be mixed, if required.

78. *Achar mango.*

Raw mangoes 50
 Salt powdered. equal in weight
 to seven mangoes.
Haldi, powdered 2 chs.
Sonf, powdered 2 chs.
Sarson (mustard)
 powdered 2 chs.

Red Pepper powdered according to taste. Linseed oil quantity sufficient Place the mangoes in water for two days Then cut them in such a way that the pieces are not separated. Mix the above powdered articles and put them in the mangoes. Place the mangoes in the sun for three or four days and pour off the water released by them. Then steep them in oil.

79. *Sandal Sharbat*

Sandal,	1 chatak.
Rose-water	4 chataks.

Rub the sandal in rose water and prepare its *chashni* with sugar.

80. *Sharbat kela Plantain.*

Plantain ripe should be crushed and essence drawn through as till. To this essence is added to taste sugar or dust or crystal sugar (*misri*) *chashni*.

81. *Sharbat Gurhal.*

<i>Gruhal</i> flowers	1½ seers.
Water	4 chataks
Sugar	12 chs.
Lemon Juice	2/5 ch.

Place the flowers in water for one night with lemon juice. Then rub them and filter the water. Prepare its *chashni* with sugar.

Grateful acknowledgments are made to Messrs. J.

N. Kaul Sub-Judge, Ch. Salig Ram Pathak Retired Collector., Q. Md. Ibn Hasan Tahsildar Sadar, Sagar Chand Vaid, Hakim Md. Ahmad., B. Dharam Narain Vakil, B. Jageshwar Sahai Mukhtar, Rancharan Attar, Shiam Behari Lal, Wazir Mohau Attar, Nasim Illahi, Syed Ausaf Nabi Tirmizi, Hakim Mohammad Ismail, Shimbhu Charan Mukhtar.

COOKERY TESTS.

Another novelty introduced into the Exhibition was the Cookery Competition. It is notorious that there are excellent recipes which are handed down as heirlooms in numerous private families; but the the level of the general cookery and the monotony of the villager's bill of fare are unsatisfactory in the extreme. The vicious circle persists. The physique of the villager cannot be improved so long as he does not get enough appetising food; and the food which he usually gets is so meagre in quality as well as in quantity that he cannot be expected to thrive upon it. Hence the object of the cookery competition was to obtain the most satisfactory *menus* for plain, homely dishes which yet offer sufficient variety and nutrient value, so that the villager's *menu* may be improved at little cost and greater food values put into it. The recipes given below are some of the most useful and effective ones which have been picked out for the villager's benefit:—

Potato Patties or (Samosas) :—Potatoes should be boiled and then peeled. After cleaning, they should be ground. Salt, chillies, and spices are added. *Amchur* should also be added according to taste. One seer of flour should be kneaded with 3 chhatak *ghi* and then made into patties. These should be spread out thinly cut into triangle by a knife and pitthi should be put in the middle

and the triangle closed from the 3 corner points. The patties are then fried in *ghi* like *puris* (Miss Taravati).

Mathri: One seer of flour should contain 3 chataks *ghi* and salt and *xeera* should be added to it, according to flour. All of them should be thoroughly kneaded together and then shaped in the form of big *puris*. Every layer of flour should have *ghi* over it, and the folded. The layer should be cut into small pieces and then fried in *ghi* just like *puris* (Miss Travati)

Green stit Barfi : Green gram 5 chatak should be ground and reduced to the form of *pithi* and cooked in $1\frac{1}{2}$ chatak *ghi* so long as it may turn into *kesar*; $\frac{1}{2}$ seer *khowa* should be well cooked. 9 chataks sugar in the form of *chashni* should be taken. *pithi* and *khowa* should be mixed with sugar *chashni* and then allowed to cool. (Kumodini Devi)

Potato fritters: After boiling green gram and grinding it, *adrak*, *garm masala*, *tatri* and salt chillies and green *dhaniya* should be mixed in it. Potatoes should contain the gram ingredients shaped in the form of a cake and cooked in *ghi*. (Gayan Devi)

Salad fritters: Same as above.

Green Gram Barfi: Dal of gram should be ground and fried in *ghi*, *Pithi khowa* and *Mewa* should be mixed in sugar *chashni* well lound and allowed to cool. 1 seer *pithi*, 1 seer *khowa*, $1\frac{1}{2}$ seer sugar, 1 seer *ghi*.

(Mrs, Hirdey Narain)

Gourd Junket : After scraping *lauhi* it should be boiled and fried in *ghi*. After that it should be poured in hot milk. Finally *mewa* and sugar should be mixed in it.

Flour Patties : *ghi*, flour and salt and *xeera* should be well mixed and collected. They should be shaped in the form of *puris* and then baked in *ghi* (Mrs. Prem Mohan)

Suji Halwa *Suji* should be well fried in *ghi*. When it turns red-hot it should be mixed with sugar *chashni*

and then *mevas* sprinkled over it 4 seers suji $\frac{1}{2}$ seer sugar and one seer water (Miss Padmadevi)

8. **Vegetable of flour:** 1 seer of wheat flour should be kept in water and then rubbed to such an extent that it may remain $\frac{1}{4}$ seer. It may then be cooked in the form of a *puris* in hot water. After boiling they should be cut into small pieces and baked in ghee with spices.

(Mrs. Jagdamba Devi)

9. **Khasta Kachauri:** *Urd Dal* after being ground is cooked, and when it has assumed yellowish colour, *dhuniya*, *kalimirsch*, *ilaichi*, long red, *chillies*, salt, *khatai* should be mixed in it. *Ata* should be well rubbed in ghee and then *urd dal* should be kept inside it and then cooked over, light fire to give more flavour and relish.

(Mrs. Murlimanohar)

10. **Curd Cakes:** The spices used in the preparation of curd cakes or *dhai* are prepared by the following process. One masha of well parched and well powdered seed and the same quantity of well powdered *garm masala* cumin should be added to one *dahibara* 4 *peppers*, some small pieces of cocoanut some of almonds and *pistas* four or five nuts of *chiroji* and a few raisins should also be put in it.

11. **Fruit Pattis:** Turn over a brass plate and spread a wet cloth over it. *Urd Pithi bara* should be spread over the cloth and spices sprinkled over it. Several such *baras* should be prepared. Two *baras* of the same dimensions should be put together from the side of spices and ends joined with the aid of water. When such *baras* are ready, they should be cooked in *ghi*. Take good curd and mix salt, black and red pepper, fried *zeera*. The *baras* should be dropped in *dahi*. Spices which are used in *baras* should be:— White cummin seeds well powdered, *garm masala* powder, each one *masha* in one *bara*, 4 black

peppers and powdered cocoanut, almond and *pista chironji* and raisin well cleaned. (Miss Taravati)

Potato Patties: (Samosa) One seer of flour, one *chatak ghi* should be mixed together and water added. They should be made into patties and then shaped in the form of puris. Each should be divided into pieces. Potatoes should be well boiled and parched and *masala* should be filled in them. Potatoes should be then kept inside the flour and shaped in the form of a triangle. They should be cooked in *ghi*. Mashala which should be used in potatoes is:— *garm masala, dhaniya, khatai chillies, hing* and *zeera*. (Daropdi Devi)

Macaroni (Sem) : One seer of flour, one *thatak ghi*, salt, *ajvain* should be well watered and should be made into loaves. It should then be allowed to assume the form of *puri* and then divided into sections by knife and cooked in *ghi*. (Mrs. Ramsewak Agarwal)

Cream Junket. *Suji* flour one seer, 2 *chatak ghi*, 1 *qasha* soda, 2 *chhattak* curd should be mixed and well watered. It should then be made into loaves and shaped in the form of *puri mewa* e. g. cocoanut. *raisin, chironji pista bari, ildichi* should be filled in the loaves after they have been well shaped. Afterwards, they should be cooked in ghee and then allowed to soak in *rabri* and coated with silver *peper*. (Miss Taravati)

Milk Pattis: *Urd* pulse may be moistened and cleaned and ground. It should be thoroughly mixed so that it may sink in water. After that *raisin, pista chironji* should be mixed with *ghi*. The milk should be made thicker and sugar *chironji* and *raisin kismis* should be added to it. The *baras of urd pithi* should be baked and then poured in the thick milk adding a little *Kevra* to it. This will assume the form of *Milk bara* (Bimla Devi Srivastava)

The cooking is the of simplest type and where every

household does its own cooking and every villager especially away from home, know how to cook his own food, and the dishes enumerated can be prepared without any difficulty whatsoever. Side by side with Uplift in other ways the greatest factor for better health is obviously good, clean, wholesome easily cooked and accessible food with sufficient variety to render it appetising to provide that is the object of these special recipes. They are meant to supplement the homely staple diet.

INDIAN RURAL GAMES AND EXERCISES.

Under Better Health and Hygiene a very prominent place must be given to Indian Games and Exercises. For the growing population, the boys no less than the girls of the village, who loaf about in undisciplined groups or singly nothing will conduce to their health and moral development so much as the discipline of sports and exercises. Team games, such as Hockey, Football or Cricket, are undoubtedly effective, but to recommend that such games be played in a village is altogether a counsel of perfection. There is hardly a single village, which could provide the necessary material, or, if provided, keep up the supply without assistance from elsewhere, which will not be easily forthcoming or guaranteed for long. Hence, the Rural Uplifter has to fall back on his own resources, in other words, on the resources of the village itself, which include the atmosphere and the mentality of the village youth, in order to provide it with an effective opportunity and excuse for indulging in Indian Games. Such opportunity and such excuses were found by the exhibition in the weeks that preceded it, through the numerous Tahsils and other bodies which organised these schemes in local areas with preliminary ties and heats and successive rounds, whereof the finals were played off during the exhibition itself. To systematise these games, the following scheme may be

examined:—Indian *Exercises*:—1. *Dana*, (2) *Magdar* (3) *Baithak* Indian *games*:—(1) *Atapata* (2) *Pilili* (3) *Kabaddi* (4) *Gulli Golf*. Indian *sports*:—Different varieties of swimming. Endurance, Variety, Speed and Life-saving.

All these events were played off, in accordance with the rules which had already been framed and published by Physical Culture Association which had taken special steps to modernise the games, to emphasise their appeal, and to minimise all chances of rough usage and horse play which ruins for instance, *kabaddi* in 9 cases out of 10. It is significant that under these new rules all the events were played off in the best, approved, sporting spirit without causing damage or creating ill-will.

TEMPERANCE COURT AND CAMP.

Striking features of the Temperance Campaign comprised of the following:—

(1) The display of posters exposing the risks not only of wine but every type of intoxicant, with charts to show the effect on stomach, heart, liver, etc., of all these baneful drinks;

(2) (a) Models showing children picking up cigarettes and trying to smoke them in silly imitation of grown ups.

(b) Suggestive models of fruit in natural colours and milk to show what is more beneficial and attractive for them;

(3) A competition for posters to show that their effects among intoxicants are not confined to the user alone but pass on to his family, community and nation. This competition was open to school-boys:—

(4) A special scene on Temperance in the Rural Uplift Drama, was especially, staged in 'Ganwaru' speech by members of the Temperance League and their supporters.

The effect of this dialect play cannot be caught in mere words, but to give a rough idea, let the following synopsis suffice:—

“A village named Sudharganj scene wherein one Shyamlal enters and tells a friend of his that he has completely got rid of his cough by giving up tobacco. He also wants his help as he has got a severe cough. The Temperance preacher then enters. It is proposed to hold a meeting on Temperance and Village Uplift. The people of the village are collected by beat of drum. The meeting is held under the Presidentship of Shyamlal. The Temperance preacher or *Sudharak* gives a discourse on the evil effects of all intoxicants. The people become convinced and fill up the forms of membership of the Temperance League to whom leaflets are distributed.”

(5) Special *Tableaux Vivants* or animated scenes of a drunkard's house to show up all its nauseating features;

(6) Magic lantern and other illustrated lectures;

(7) Temperance Bookstall and Literature;

(8) Special Rural Uplift Temperance Booklet called “*Good Health and its Wicked Enemies*” in Hindi which was distributed to the extent of 3000 copies.

(8) As counterblast to the wild show made by the noisome cups and bottles of the drunkard stood the beautiful array of appetising Syrups and *Sherbets* of apples, pears, peaches, grapes, pomegranates, bail falsas, and a big variety of delicious fruit in the long stand, the longest in the Exhibition of the Fruit Preservation Section. This was not altogether a mere show but went further when the syrups as also *Murrabbas*, Preserved Fruit, *Jams*, *Achar*, *Chutneys*, were tasted by members of the committee no less than by persons in the general public for judging the best articles of the best recipes. Grateful acknowledgments are made to Messers, Shyam Sunder Lal

Advocate, Shiam Sunder Lal Gupta, Deo Datt, Gajadhar-Singh, Kalicharan Saxena, Shri Dhar, Dharam Narain, and R. S. Dr. Misra.

ST. JOHN AMBULANCE ASSOCIATION.

Camp and Court: Striking features of this movement were as follows:—

(1) First Aid Material and Stretcher were kept on display in order to familiarize the public with the principles and practice of First Aid and Nursing. Many cases were registered and the serious ones transferred to the exhibition hospital.

A Show Room was installed with charts, Diagrams, and Sketches, as well as pictures to show the activities of the Ambulance Association.

(3) The sick-room was set up to show how the sick should be nursed and the furniture and ftsmen arranged to give the patient every opportunity for improvement. Such elementary yet essential precautions were taken in regard to cleanliness, drink, diet, spitting, ventilation, company etc. etc.

Ambulance competitions were held on the standard lines of All India Competitions as demonstrated in Calcutta in 1934 with two Sections First Aid and Mackenzie School Course. The competing teams came from Police, Railway, Schools etc.

Medals and Certificates of Honours were awarded.

SOLDIERS' BOARD.

Striking features were:—

(1) Separate co-operation of the military element This does not participate in such big schemes of Rural Uplift. Special importance was attached to the incorporation of the military element on the distinct understanding that

the Military throughout their active service have ample opportunity for leading healthier, cleaner lives than their men-folk in their own in sanitary villages at home and can serve the cause of Rural Uplift very much better.

(2) The installation of a Separate Court and Camp in a very prominent place of the Soldiers Board.

(3) Convening of the quarterly meeting of the Soldier's Board attended by the leading British Officers, Commanding and others, from the Regiment at Fatehgarh.

(4) Special decoration of the camp gate and grounds.

(5) Museum of quaint firearms set up in the main pandal of the Soldiers Board Court and Camp. The exhibits in the museum included (1) Toredar banduk (2) B. L. Guns (3) Dhals (4) Tir Kamans (5) Katars (6) Pesh Kabaz (7) Bhujalis (8) Kanthats (9) One Sherpanja (10) and many kinds of swords.

(6) Very instructive speeches by members of the Board and by visitors, the latter including Jamadar Janak Singh of the 8th Cavalry who also spoke on Silver Jubilee Fund and started the subscription list with his own contribution.

(7) The drums of the regiment was a very great attraction.

(8) The participation of the Board in the functions official and social, such as the Darbar of the Commissioner Patron of the Exhibition, and the entertainment by Raja Sheomangal Singh, Vice-patron.

WATERING AND CONSERVENCY.

The following were the special features:—

(1) Nearly 100% increase in the allotment of funds due to the more intensive service.

(2) Watering on a very much larger scale the number

of Bhistis alone being increased by 50 per cent.

(3) Special increased Conservancy Staff.

(4) Construction and maintenance of urinals, latrines soakage pits for *Halwais*, aerated water vendors, private latrines and the scavenging of big space such as sports ground etc.

SCOUTCRAFT.

Special features were :—

1. Setting up of Scout Camps side by side and their close cooperation in practice:

2. Practical training in pitching their camp, construction of attractive huts with cheapest material such as bamboos and *chattais*

These two village articles have been put to effective use not only for housing the Scouts, but also for constructing big Shamianas in the Co-operative Section. Such Shamianas look much more attractive and are more resistant to wind, dust and heat than ordinary cloth Shamianas. Moreover, they can be beautified with coats of many coloured paint, preferably green, *ad lib*.

3. Self-help Scouts were trained on their own resources at a time, when others could not look after them and learn to fend for themselves.

4. Scout Kitchen :—All this was maintained by Scouts who did their own cooking.

5. Health and Hygiene:—Scouts, who were helpful to public health in many other camps, had the most important task to keep their own group scrupulously clean.

6. Watch and Ward :—Scouts were of great help in looking after the Exhibition; attending to the Watch and Ward of important Camps and Stands,

7. *Waifs and Strays* As usual in big *melas* numerous children from grown ups get detached from party and

have to be restored. This onerous work was performed by the Scouts with the greatest success.

(8) *Traffic control* Scouts helped materially to keep the traffic at the temple and the various stands under control.

(9) In numerous First Aid cases First Aid to the injured was rendered by the Scouts where necessary and they sent them on to the Medical Section and the First Aid Camps in the Exhibition or the Sadar Hospital in the city.

10. Cycle stand.

11. Special Scout Stall as in Ladies' Section.

12. Scouts Rally.

13. Camp fire.

14. Grateful acknowledgments are made to Messers, Dharma Narain D. R. Bharadwaj, Prem Mohan Verma, Nand Kishore, and Sughar Singh.

VETERINARY.

Camp and Court. The following were striking feature:—

1 A small Veterinary Dispensary with instruments arranged on red cloth for Show as well as service.

2 Demonstrations of the instruments visitors.

3 Demonstrations of inoculations and the improved methods of Veterinary operation by trained Inspector and Veterinary Assistant Surgeon.

4 Treatment of sick animals among the numerous animals coming to the Fair as outdoor patients.

5 Award of prizes to animals.

Grateful acknowledgments are made to Messers. Mohd Tahir Mirza Veterinary Inspector, Etawah, Circle, Dr. A. N. Mukerji, R. S. Dr. S. D. Mirsa, Dr. J. S. Riazada Dr. Cheda Lal Sharma, Dr. Shyama Charan Varma.

CATTLE AND DAIRY SECTION.

Public demonstrations were given to the public on:—

1. Cream separation.
2. Testing of milk for its fats and water contents.
3. Direct preparation of butter from cream and milk.

4. Acidity test of milk.

5. Lectures on Cattle Breeding and improvement of cattle were also delivered at the Co-operative and Agriculture Conferences.

4 Hissar and 1 ordinary bulls were obtained from the Govt. Cattle Farm Muttra for the Exhibition and distribution in villages of the Mainpuri district.

There was also a Cattle Show on the 31st of March, 1935. Out of 138 cattle, 41 of different descriptions and ages were awarded prizes.

Grateful acknowledgments are made to Messers. Pannaal, Divisional Suprintendent, of Agriculture, Agra, Sardar Surjan Singh Sahib, Inspector of Agriculture Cattle Breeding Mainpuri, Harprasad Inspector of Cattle Breeding Muttra.

ILLUMINATION.

Special features were:—

- (1) Reduced expenditure and greater return on the total outlay.

- (2) Considerable expansion of the area illuminated due to the increase in number of Courts and Camps compared with the limits of previous years.

- (3) Special lighting at cross-roads and junctions.

- (4) Private illumination by shopkeepers within the Exhibition.

- (5) Exceptional illuminations of the Devi Temple and appurtenances with *chirags* and *Jhijhis* or *ornamental earthen tapers*.

MEDICAL SECTION.

Court and Camp The following were the striking features:—

(1) Medical and Surgical First Aid and Treatment Section.

(2) Emergency bed and provision for indoor patient.

(3) Provision of segregated quarters.

(4) Special Mela Dispensary.

(5) Attendance total 288.

Grateful acknowledgments are made to Capt. K. P. Sinha and B. Ram Saran Compounder.

RURAL UPLIFT WORKERS.

It goes without saying that Rural Uplift Work requires the services of a very special type of Rural Uplift worker. Obviously, it will not do to entrust a very sophisticated townsman with the ideals and outlook, speech and horizon of a townsman, to go and preach to villagers, what he himself does not understand. At the same time, it is difficult to find among the residents of a Rural Area, persons, who are sufficiently educated to be able to appreciate the instructions sought to be given and to pass them on to others. Generally speaking, the test imposed on a Rural Uplift Social Service Worker, with a view to gauging his chances of success has been twofold: (1) to get him to elaborate as briefly as possible within a prescribed time the scheme of operations under the different heads of Rural Uplift which he proposes to undertake ; and (2) to ask him to carry on some personal propaganda *viva voce*, in the villager's own speech, with a villager whose reaction to such propaganda is recorded by the observant examiner. Further. this double test has led to surprising results.

Where a candidate is well up in what may conveniently be called the art and practice of Rural Uplift, and can put his thoughts briefly and cogently to paper, it is yet found that he cannot express himself intelligibly in the villager's own speech or evoke the villager's sympathy and interest in self-betterment. The anomaly of the situation is vividly illustrated by the anecdote of a very expert Professor of Rural Uplift, who was asked to handle a villager literally picked up from the streets of a big town, where he had come on an early morning visit from his village for shopping. The following are the words lifted from the very mouths:-

P. R. U. Apka ism mubarik kia hae ?

Answer. Kahe ko batai.

P. R. U. Ap yahan kiyon tashrif lae hen ?

Answer. Kahe ko batai.

P. R. U. Ap yahan kahan se tashrif la rahe hen ?

Answer. Kahe ko batai.

P. R. U. finding that he had caught a Tartar, collapsed.

This illustration which is not a caricature summarises all the difficulties of Rural Uplift:—

(1) The difficulty of enlisting the villager's sympathy of converting his natural suspicion and hostility into helpful responsiveness and cooperation;

(2) The difficulty of communing with the villager in his own idiom, a difficulty which even the so-called high class residents of his own village, who following the unfortunate urbanising but false trends and tendencies in the social economy of the Rural Area, are discarding their Rural career as something alien and a sham, cannot have a heart to heart talk with the rural residents, leave alone urbanists, who admittedly have no point of contact with them except the genuine desire or ideal to do them good.

The actual statistics show that barely 10 p. c. of those who offer themselves for social service as Rural Uplifters

in the rural area, tolerably fulfil the preliminary requirement of such service.

Hence, it cannot be sufficiently emphasised that a real propagandist has to be searched high and low and put on the work before True Rural Uplift can responsibly be expected. On the other hand, one has to make the best use of poor means where the best means are not ready to hand. In that spirit, the Rural Uplift Exhibition has revealed that workers fired with missionary zeal who have powerful contact with the soil, even, if they have been urbanised by their town work and association, can yet achieve conspicuous success in the new field of Rural Uplift. He who runs may read and a closer glance at the spaces covered with exhibits exhibitors and rural sight-seers in the rural area will convince doubting Thomases that Rural Uplift is yet possible.

PROMISE AND PERFORMANCE.

Promise and performance a tale of achievement
“Much promise put in league with poor performance Shall make the triumph in thy high throne-hall” was the advice given to the Pope in Dante’s Divine Comedy Canto 27, p 115 (Nehru) by a mischief-maker who acquired great sin. Read Debating-Hall at the end and you have the story of the transient triumphs of many an exotic, quixotic effort at Rural Uplift made from *without* while all upsurge, upthrust must come from *within*. So T R U E taking his stand right in the heart of things as they are has promised nothing but performed much. Here is the stocktaking.

The Devi Fair opened under the best of auspices with the usual flourish of trumpets. Unusually, Associations vital to Rural Uplift such as Agricultural, Cooperative and Fruit-growing found birth or rebirth in the first case. In the course of the year, very soon after, Rural Development Association was constituted but the most novel was the Fruitgrowers Association in its day to day progress through invaluable research and propaganda carried on by its members. Its story is not an ordinary one. Beginning as simple Fruit-growing Association it took to Electroculture at first tentatively, then whole-heartedly, and finally triumphantly. While so doing it underwent metamorphoses from Fruitgrowers Association to Electro-culture and Fruitgrowers Association, then to Electroculture and finally into International Cooperation of Electrocltural Research. These are tags or labels which signify nothing,

and the Association has not cared to advertise itself thereby. Remains, however, the astounding fact that thanks exclusively to the interest shown and the energy displayed by workers at home and abroad, seed sown in the Devi Fair at Mainpuri has grown to plant, fruit and tree covering centres of activity all over the world.

The methods have been of the simplest type. Electrical energy is being taken from ever simpler and more readily accessible sources. Indeed no village can afford to be without some such. Thus, development and gradation has been the following:— (1) energy taken from a town supply (2) A portable dynamo (3) Motor Car (4) A Cycle Lamp Dynamo. (5) Pocket Torch Dynamo and (6) Terrestrial, atmospheric, radiomagnetic sources. Extensive and exhaustive research has shown the great potentialities of Electroculture with the above sources of supply and the cheaper the sources the greater the prospects. No village community or village is without a bicycle and every villager can and does aspire to possess an electric torch. Hence Electroculture can be and has been applied on ever increasing scale in accordance with the methods explained in the earlier chapters.

Many villagers and all zamindars have a garden of sorts. Townsmen boast of garden as a social passport, although they do not enter into this picture. The simple villager, however, has achieved more success than the highbrow townsmen. The reason is clear: The farmer takes his coat off and often he is saved that worry because he has no coat. The latter clings to his coat and overcoat and expects of a servant he employs to do everything, but in reality he does nothing as he knows nothing and cares less. Thus thanks to the defeatism, if not the hostility, of the so-called *Malis* of big folk, Electroculture has run the risk of being discredited and has exclaimed "*Sar*

me from my practitioners!" The leaflets entitled "Beginners mistakes in Electroculture. Do's and Dont's (S. S. Nehru) and More Beginners' Mistake in Electroculture:-Further Do's and Dont's (S. S. Nehru)" tell this sad, if comic, story. 'The latest and the best deserves to be cited.' I am glad that you find the results really satisfactory as it was rather difficult to be sure from my own observation. One is always inclined to think one can see what one is hoping for." As it happens very exact measurements were taken periodically in this garden and the positive results have gone into print. Unfortunately, the *mali* was hostile and frankly enquired why Electroculture was bumping into his inner peace. In another case the happy owner carried off three prizes at a Flower show and yet he mournfully calls Electroculture a failure! On the other hand one European has declared his Electrocultured vegetables better than European. But members have a uniform successful and encouraging story to tell and the 25 bulletins on *Garden Practice* form a record of achievement. Plants especially selected for their industrial or food value have claimed and recieved wide attention. These include Plum, Falsa, Jamun, Mulberry, Loquat, Citrus, Mushrooms, Rose, Pan, Palm, Rubber, Figs, Sharifas, Guava, Bamboo, Dhak, Broomecorn, Duranta, Tomato, Mango, Cucumber, Karela, Bhendi, Croton, Pea, Sugarcane, Potato, Cauliflower and Cotton. The relative leaflets will give the exact measure of achievement, which is very high. Suffice it to say that these researches have been carried on not only in India but abroad in a spirit of teamwork which deserves the highest credit. Thus Plum in Peshawar Rubber in Malaya, Vine in Greece, Citrus in Sicily. Yarrowising in America, are some of the outstanding examples of world-wide effort.

Why distant countries like Sicily, Greece, Malaya,

have undertaken these researches is explained by the fact that the local plants were subjected to pests and diseases and under these a dozen bulletins have come in.

A facile reproach has been this that Electroculture gives no results, and, if at all, they are transient. At least seven workers have shown records for one year and the President himself has followed up positive results into the fifth generation. The reproach is without justification.

Equally unjustified are other reproaches which have been handled by way of constructive criticism. In the controversial leaflets one such was "Stimulation of Energetics. Does Electroculture injure the Plants ? Symposium Mr. R. G. Allan, S. D. Misra, V. Sharma, and the President M. F. G. A.] This symposium has definitely shown that Electroculture improves and not injures the plants.

Another reproach or a Parthian shot has been this that tests were not exact. Four distinct Bulletins on exact test by experts on the subject have removed that reproach.

But the most powerful engine of Rural Uplift through Electroculture has been the service of Exhibition and Demonstrations. Following the modest, inaugural show at the Exhibition hard at heels came a Fruit show to which a powerful picture book has been dedicated called the Album of a Fruit show and then again the big fairs like *Ramlila* in which a Circus of Electrocultured plants went up and down the country-side on important days distributing electrical appliances by the hundred then came an exhibition to demonstrate and so began another Series of demonstration at 24 centres up and down the country at which electrocultured produce raised by the local people was demonstrated and the best crowned with prizes and further appliances given away by the hundred. Thus Agriculture and

Horticulture have been given a very powerful stimulus not on paper but in the field, and not to the selected few but the crowded many. Still more sensational as compared with this Electroculture has been the Electroculture of humans. A dozen Bulletins show how Human beings men women and children, most innumerable, have benefited from the electrocultured principles established on Plant, Eye, Spleen, Ear, Lungs, Heart and Brain etc have all given very powerful reactions as instanced by the 12,000 cases in the course of a few weeks. Sufferers come from long distances and the measure of relief given is an index of success.

But most important, because the least alleviated, is animal suffering and Electroculture has benefited Animals beyond expectation. Poultry has benefited very articulately and cases cured of white diarrhoea, spleen, impotence, T. B. etc. A pedigree goat on a goat farm was made potent and all important animals from elephant to poultry sent away relieved.

This is a very brief attempt at Stocktaking. It is not and cannot be completed, for the measure of relief given cannot be counted in mere words. A friendly look in the Animals' eye, the beatitude of the suffering bullock taking High Tension Spark in the month, the curling snout of the elephant being done in the eye, the quietitude of the mare at the touch of the electrode when previously she was kicking out in pain are items which should be taken into account but are actually left to the imagination.

In sum, Electroculture has succeeded beyond expectation and needs no Stocktaking to prove it.

FINIS.
